



Purchasing Department  
Finance Group

July 20, 2016

**INVITATION TO BID**

The City of Norwalk, is soliciting bids for the façade repairs at the Norwalk Public Library. The approximate budget for this project is \$40,000.00. The requirements of these construction services are outlined in greater detail within the specification materials contained within Section 2 of this bid package – Project Specifications; and within the accompanying project drawings.

<b>PROJECT NUMBER:</b>	<b>3700</b>
<b>DEADLINE :</b>	<b>2:00 PM, August 10, 2016</b>
<b>BID TITLE :</b>	<b>Façade Repairs at Norwalk Public Library</b>
<b>SITE LOCATION:</b>	<b>Norwalk Public Library 1 Belden Avenue Norwalk CT 06851</b>

**BID DOCUMENTS** for this project are available over the Internet at <http://www.norwalkct.org> Adobe Acrobat reader is required to view this document. If you do not have this software you may download the required software from Adobe.

A Pre-Bid Conference will be held at 10:00am, Wednesday, August 3, 2016, meeting at the Norwalk Public Library, main lobby which is located at 1 Belden Avenue, Norwalk, CT 06851. A walk-through of the project area will follow the pre-bid conference. The pre-bid conference is not mandatory but highly recommended.

All questions concerning this solicitation must be directed in writing via email to Sharon Connors, [sconnors@norwalkct.org](mailto:sconnors@norwalkct.org). The deadline for submission of questions for this bid solicitation is **02:00PM, Monday, August 8, 2016. Please include the Project Number and Bid Title in the subject line**, thank you.

Bidders will be required to provide:

- 10% bid bond with your response (see Section 3.1 C).
- Performance, labor, and materials bond for 100% of the project upon award if the contract value exceeds \$50,000.00 (see Section 3.1 C & D).
- Copies of current certifications as applicable to this solicitation.
- Original bid response, plus nine (9) copies.

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## **SPECIAL NOTES:**

- 1) **PROJECT SCHEDULE:** Construction shall commence on or about Sept. 6, 2016 and shall be completed on or about Dec. 2, 2016.
- 2) **BUILDING PERMITS** - Contractors shall obtain and pay for all required permit(s) for this project. Permits fees are NOT waived for this project.
- 3) References to Department of Public Works, Director of Public Works, and Engineer in section 3 and section 4 are to be interpreted as "Owner's designated representative".
- 4) Section 4, Item 109-04-2b, Contractor Charges is changed to read "...profit and overhead shall be figured at fifteen (15) percent unless some other basis is approved by the Director."
- 5) Section 3.8, Liquidated Damages, change to read "Liquidated damages as defined in Article 27 of the Norwalk General Conditions for Construction will be \$250.00 per day.
- 6) Contractors are hereby reminded that all submitted bid amounts **MUST** include all costs/insurance premium required to satisfy the various insurance limits as identified in these documents.
- 7) Contractors bidding on this project need to be State certified for lead handling, abatement and disposal

**BIDDER LISTS** (List of Plan Holders) will not be published.

**ADDENDA**, if issued, will be available over the Internet at <http://www.norwalkct.org>. It is the responsibility of the bidders to verify the issuance of any addenda. **We strongly suggest that you check for any addenda a minimum of forty eight hours in advance of the bid deadline.**

**SUMMARIES** will be available any time after 5:00 PM on the day of the bid opening over the Internet at <http://www.norwalkct.org>. The document number to request will be the same as the project number indicated in the invitation to bid. Bid results will not be provided over the phone.

**AWARD NOTIFICATION** will be issued by mail.

If, after review of the bid documents, your firm is interested in performing the services specified, provide the information requested, sign and return the complete documents, along with your detailed proposal, to the Purchasing Department by the due date.

**SEALED BID RESPONSES, One (1) Original plus nine (9) copies are to be delivered to:**

City of Norwalk  
Purchasing Department, Room 103  
125 East Avenue  
Norwalk, CT 06856-5125

**NOTE:** The City of Norwalk will not accept any sealed bid submissions via email or facsimile (fax). Please indicate the bid number and bid title on the envelope.

*The City of Norwalk is an Affirmative Action/Equal Opportunity Employer; Minority/Women's Business Enterprises are encouraged to apply*

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**SECTION 1 – FORMS OF PROPOSAL**

**1.1 RESPONSE FORM – BID #3700 Facade Repairs at Norwalk Public Library**

<b>Vendor Name -</b>		
<b>Address -</b>		
<b>Phone -</b>	<b>Fax -</b>	<b>Email -</b>
<b>Manager -</b>		<b>Fed ID#</b>

The undersigned hereby declares that he has or they have carefully examined the plans, specifications and project site and has satisfied himself as to all the quantities and conditions, and understands that in signing this proposal he waives all right to plead any misunderstanding regarding the same.

The undersigned further understands and agrees that he will furnish and provide all the necessary material, machinery, implements, tools, labor, services, and other items of whatever nature, and to do and perform all the work necessary under the aforesaid conditions, to carry out the contract and to accept in full compensation therefore the amount of the contract as agreed to by the Contractor and the City.

**1. Façade Repairs at Norwalk Public Library**

<b>A</b>	<b>Façade Repairs at Norwalk Public Library – Lump Sum Bid</b>	<b>\$</b>
<b>B</b>		<b>\$</b>
<b>C</b>		<b>\$</b>
<b>D</b>		<b>\$</b>
<b>E</b>		<b>\$</b>

<b>Total Lump Sum Price (Items A thru E above)</b>	<b>\$</b>
<b>Total Lump Sum Price in Writing:</b>	

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<b>PROJECT:</b>	<b>3700 Facade Repairs at Norwalk Public Library</b>
<b>VENDOR NAME:</b>	

The undersigned further agrees, in case of variations of quantities from those shown or specified, the following unit prices will be used in adjusting the contract price. If quantities are authorized by the City, the following amount will be added to the contract as required. Unless otherwise noted, each UNIT PRICE shall include all equipment, tools, labor, permits, fees, etc., incidental to the installation and completion of the work involved.

It is further understood and agreed that all the information included in, and attached to, or required by the Request for Bid shall become public record upon delivery to the City.

The following unit prices shall apply to this project:

<b>ITEM NO</b>	<b>WORK ITEM DESCRIPTION</b>	<b>UNIT OF MEASURE</b>	<b>UNIT PRICE</b>
T1	Wide Horizontal	Linear Foot (LF)	\$ /LF
T2	Wide Vertical	Linear Foot (LF)	\$ /LF
T3	Diagonal	Each (EA)	\$ /EA
T4	Curved Diagonal	Each (EA)	\$ /EA
T5	Narrow Horizontal	Each (EA)	\$ /EA
T6	Narrow Vertical	Linear Foot (LF)	\$ /LF
T7	Sculpted Curve	Each (EA)	\$ /EA
T8	Egg & Dart	Linear Foot (LF)	\$ /LF
T9	Cost per linear foot to replace decorative rate applique T9	Linear Foot (LF)	\$ /LF
10	Cost per square foot to remove & replace brick where scaffolding or lift is <u>not</u> required	Linear Foot (SF)	\$ /SF
11	Cost per square foot to remove and replace brick where scaffolding or lift is required	Linear Foot (SF)	\$ /SF

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<b>PROJECT:</b>	<b>3700 Facade Repairs at Norwalk Public Library</b>
<b>VENDOR NAME:</b>	

Bid Security in the form of a (check one) is attached.		Bond		Certified Check
Cost for performance bond <u>included in lump sum</u>	\$			per thousand dollars
Insurance Agency Name -			Tel.-	
Agency Address -				

Submitted By:	
Authorized Agent of Company (name and title)	Date:

The above signatory acknowledges receipt of the following addenda issued during the bidding period and understands that they are a part of the bidding documents (if applicable):

Addendum #		Dated		Addendum #		Dated	
Addendum #		Dated		Addendum #		Dated	
Addendum #		Dated		Addendum #		Dated	

**Response Forms Submitted by:**

Print Name of Authorized Agent of Company	
Signature of Authorized Agent of Company	
Date	

END OF SECTION

<b>PROJECT:</b>	<b>3700 Facade Repairs at Norwalk Public Library</b>
<b>VENDOR NAME:</b>	

**1.2 STATEMENT OF BIDDERS QUALIFICATIONS**

Please answer the following questions regarding your company's past performance. Attach a financial statement or other supportive documentation. Failure to reply to this instruction may be regarded as justification for rejecting a bid.

1. Number of years in business - \_\_\_\_\_
2. Number of personnel employed Part-time - \_\_\_\_\_, Full - time \_\_\_\_\_,
3. List projects of this type/size your firm has completed within the last three years:

Project	Date	Contact Person	Phone No.

<b>4. ORGANIZATIONAL STRUCTURE OF BIDDER (check which applies)</b>	<input type="checkbox"/>	general partnership
	<input type="checkbox"/>	limited partnership
	<input type="checkbox"/>	limited liability corporation
	<input type="checkbox"/>	limited liability partnership,
	<input type="checkbox"/>	corporation doing business under a trade name
	<input type="checkbox"/>	individual doing business under a trade name
	<input type="checkbox"/>	other (specify)

<b>5. STATUS OF THE BUSINESS AND ITS CURRENT STANDING WITH THE SECRETARY OF STATE'S OFFICE; e.g., are all required filings current and in good standing or has the entity been withdrawn or canceled</b>	<u>Connecticut corporations</u> - Will the Secretary of State be able to issue a Certificate of Good Standing within 30 days of the bid opening?	Yes	No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<u>Out-of -State corporations</u> - Do you have a valid license to do business in the State of Connecticut? (Evidence in the form of a Certificate of Authority from the Connecticut Secretary of State will be required within 30 days of the bid opening.)	Yes	No
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

**6. Is your local organization an affiliate of a parent company? If so, indicate the principal place of business of your company and the name of the agent for service if different from what has been indicated on the response form:**

Business Name				
Address				
City	State	Zip		
Name of Agent				

<b>PROJECT:</b>	<b>3700 Facade Repairs at Norwalk Public Library</b>
<b>VENDOR NAME:</b>	

**NOTE:** In the case of a Limited Liability Corporation or a Limited Liability Partnership a certified copy of the Articles of Organization certified as valid and in effect as of the date of the bid opening will be required within 30 days of the bid opening.

A listing of the corporate officers, in the case of a corporation; the general or managing partners, in the case of a partnership; or the managers and members in the case of either a limited liability partnership or company will be required within 30 days of the bid opening.

7. The awarded contractor may be required to submit one copy of the following information relative to its company's financial statements prior to contract signing. This information must represent the current circumstance which surrounds the financial position of the bidding organization. Note: This information will be kept confidential if provided in a separate envelop from your bid pricing.

All information should be supported with appropriate audited financials.

- a. Book Value (Total Assets (-) Total Liabilities)
- b. Working Capital (Current Assets (-) Current Liabilities)
- c. Current Ratio (Current Assets/Current Liabilities)
- d. Debt to Equity Ratio (Long Term Debt/Shareholder's Equity)
- e. Return on Assets (Net Income/Total Assets)
- f. Return on Equity (Net Income/Shareholder's Equity)
- g. Return on Invested Capital (Net Income/Long Term Debt = Shareholders' Equity)

8. **SUBCONTRACTORS:** If subcontractors are to be used, please list firm name, address, name of principal, and phone number below or on a separate sheet. Also, indicate the portion or section of work a subcontractor will be performing.

COMPANY NAME	ADDRESS	PRINCIPAL	PHONE

All responses to this questionnaire are understood to be proprietary to the vendor, and will be considered confidential. Additional information may be requested subsequent to your responding to this bid request.

END OF SECTION

### 1.3 SAMPLE CONTRACT

*“The following document is the City’s standard construction services contract. Please be advised that the substantive terms and requirements outlined therein may be revised only with the approval of Norwalk’s Corporation Counsel.”*

**CITY OF NORWALK  
CONTRACT FOR CONSTRUCTION SERVICES  
WITH «VendorName»  
«Project»**

This Contract entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2016, by the **CITY OF NORWALK**, a municipal corporation organized and existing under the laws of the State of Connecticut (hereinafter referred to as "CITY"), acting by and through «ContractAuthorizer», its «ContractAuthorizerTitle», duly authorized, and «VendorName», a corporation organized and existing under the laws of the State of Connecticut with an office and principal place of business located at «VendorAddress1» «VendorAddress2», «VendorCity», «VendorState» «VendorZip», acting herein by «VendorAuthorizer», its «VendorAuthorizerTitle», duly authorized (hereinafter the "CONTRACTOR").

WITNESSETH: That the CITY and CONTRACTOR, for the consideration hereinafter named, agree as follows:

**ARTICLE 1. WORK TO BE DONE**

The CONTRACTOR shall (a) furnish all the materials, machinery, implements, tools, labor, services, and other items of every kind (the "Work") using its best skill and attention required to perform and complete in the most substantial and workmanlike manner the project generally identified as «Project» (hereinafter the "Project"). The Work shall be performed in strict compliance with the City of Norwalk Department of Public Works General Provisions; the general and technical specifications and conditions of contract; the Project Plans; Special Conditions and Addenda; State Labor Department minimum wage rates; any addenda to the specifications; and all requirements of the Contract Documents, as defined herein.

The CITY will compensate the CONTRACTOR for the satisfactory completion of the Project and of all of the CONTRACTOR's duties, obligations and responsibilities under this Contract, subject to additions and deductions as herein provided, the total sum of «ContractBudgetInEnglish» (\$«ContractBudget») in the manner

set forth herein and the Contract Documents.

The Project shall be performed in accordance with the true intent and meaning of the Contract Documents without any expense of any nature whatsoever to the CITY exceeding the compensation stated herein. The CONTRACTOR's Work hereunder shall be overseen by «VendorAuthorizer», its duly authorized «VendorAuthorizerTitle».

The CONTRACTOR hereby represents that it has carefully examined and understands all of the terms and requirements of the Contract Documents, has investigated the nature, locality and site of the Project (the Site) and the conditions and difficulties under which it is to be performed and that it enters into this Contract on the basis of its own examination, investigation and evaluation of such and not in reliance on any opinions or representations of the CITY or any third party, including any officer, agent, servant or employee thereof.

## **ARTICLE 2. ADMINISTRATION OF CONTRACT BY CITY**

The Work to be performed under this Contract shall be administered on behalf of the CITY by «DepartmentHead», «DepartmentHeadTitle», referred to as the "Director." The CONTRACTOR acknowledges and agrees that any instructions, reviews, advice, approvals or directives rendered to it by the Director or his designated representative consistent with the Contract Documents are authorized on behalf of the CITY. However, notwithstanding the above, no advice, directive or other recommendation or request by the CITY shall give rise to liability or responsibility on the CITY's part for any portion of the Work, nor shall it relieve the CONTRACTOR of its responsibilities hereunder.

## **ARTICLE 3. DOCUMENTS FORMING THE CONTRACT**

The Contract Documents shall be deemed to include the Bid Documents; Addendum No. 1; the CONTRACTOR's bid response, dated \_\_\_\_\_; this written Contract, including all bonds and insurance certificates; the City of Norwalk Department of Public Works General Provisions; the general and technical specifications and conditions for the Project; the Project plans; Special Conditions and Addenda; State Labor Department minimum wage rates (if applicable); any addenda to the specifications; and all provisions required by law to be inserted in this Contract, whether or not physically inserted.

This Contract will supersede any Contract or contract form that may have been included in the bid specifications,

which form was included for information purposes only, and any writings or documents not incorporated herein by specific reference. This Contract, together with the other Contract Documents are all intended to supplement and complement each other and shall, to the fullest extent possible, be so construed and interpreted. If, however, any provision of this Contract irreconcilably conflicts with any provision of the other Contract Documents, the provision imposing a greater obligation on the CONTRACTOR shall govern.

#### **ARTICLE 4. EXAMINATION OF DOCUMENTS AND SITE**

The CONTRACTOR confirms that it has carefully examined the Project Site, as well as its surrounding territory. As a result, the CONTRACTOR acknowledges that it is fully informed regarding all existing conditions, both natural and manmade, as well as all such above grade, at grade and subsurface conditions that may in any way affect the Work to be done and labor and materials to be furnished for the proper completion of the Project, including, by way of example, the existence of poles, wires, pipes, ducts, conduits and other facilities and structures of municipal and public service corporations on, over or under the Project site. The CONTRACTOR further acknowledges that it has secured such information by personal investigation, research, and inquiry into all reasonably available data concerning the actual Site and has not relied upon the estimates or records of the CITY; and that it will make no claim against the CITY by reason of reliance on any such estimates, tests, information, data or representations made by any officer, agent, representative or employee of the CITY, or for costs incurred as a result thereof.

In addition, the CONTRACTOR agrees that, prior to starting any part of the Work, it shall carefully study and compare the various drawings, plans and other Contract Documents relative to that portion of the Work in order to facilitate construction and determine whether inconsistencies or conflicts exist.

#### **ARTICLE 5. DATE OF COMPLETION**

The CONTRACTOR further agrees that it will begin the Project herein described within ten (10) days of the date hereof, unless written instruction from the Director is given to begin at a different date. The CONTRACTOR shall diligently and continuously prosecute and complete the same and coordinate its Work with all other work being performed on the Project according to any schedules that may be

issued from time to time during the Project and any other scheduling requirements listed in the Contract Documents, so as not to delay, impede, obstruct, hinder or interfere with the commencement, progress or completion of any part of the Project and so that the Project shall be entirely completed no later than «CompletedDate» (the "Completion Date"), unless such Completion Date is extended by written notice signed by the Director.

**THE CONTRACTOR ACKNOWLEDGES THAT TIME IS OF THE ESSENCE IN TERMS OF COMPLETION OF THE CONTRACTOR'S WORK HEREUNDER.**

No extension beyond this date of completion shall be effective unless in writing signed by the Director. Any extension shall be for such time and upon such terms and conditions as may be set by the Director, which may include charges for professional services, engineering and inspection expenses incurred, (including expenses incurred by railroad companies on contracts which affect a railroad right of way) as a result. Notice of application for any extension shall be filed with the Director at least fifteen (15) days prior to the date of completion set forth above.

The CONTRACTOR shall work during such days and times as required by the CITY so as not to interfere with its use or operation of the Site. However, if the CITY deems it necessary, it may direct the CONTRACTOR to work overtime. If so directed, the CONTRACTOR shall work overtime and, provided that it is not in default under any of the terms or provisions of this Contract or of other Contract Documents, the CITY will pay the CONTRACTOR for such actual additional wages paid directly for such overtime work, if any, at rates which have been approved by the CITY.

The CONTRACTOR shall contribute to and cooperate with the development of the Project schedules and other efforts to achieve timely completion of the Work. The CONTRACTOR shall be required to provide information for the scheduling of the times and sequence of operations required in order for its Work to meet the CITY's overall schedule requirements and it shall continuously monitor the Project schedule so as to be fully familiar with the timing, phasing and sequence of operations of the Work and of any other work performed by others on the Project. The CONTRACTOR shall diligently execute the Work in accordance with the requirements of the Project schedule including any revisions thereto.

In the event the CONTRACTOR is delayed, obstructed, hindered or interfered with in the commencement,

prosecution or completion of the Work by any cause including, but not limited to, any act, omission, neglect, negligence or default of the CITY or of anyone employed by it, or by any other contractor or subcontractor on the Project, or by damage caused by fire or other casualty or by any other cause beyond the control of and not due to any fault, neglect, act or omission of the CONTRACTOR, its officers, agents, employees, subcontractors or suppliers, the CONTRACTOR's exclusive remedy shall be an extension of time for a period equivalent to the time lost by reason of any and all of the aforesaid causes. Provided, however, that the CONTRACTOR shall not be entitled to any such extension of time unless the CONTRACTOR (1) notifies the CITY in writing of the cause or causes of such delay, obstruction, hindrance or interference within forty-eight (48) hours of the commencement thereof and (2) demonstrates that it could not have anticipated or avoided such delay, obstruction, hindrance or interference and has used all available means to minimize the consequences thereof. Notwithstanding the foregoing, if any of the Contract Documents are at variance with granting such time extension, then the provisions of such documents shall control.

In no event shall the CONTRACTOR be entitled to money damages or an adjustment to the sum payable hereunder by virtue of any such delay.

In the event of a delay in the progress of the Work or disruption of, hinderance, obstruction, or interference with the Work due to any fault, neglect, action or omission of the CONTRACTOR or any of its officers, agents, servants, employees, subcontractors or suppliers which results in any additional cost, expense, liability or damage to the CITY including, legal fees and disbursements incurred by the CITY (whether incurred in defending claims arising from such delay or in seeking reimbursement or indemnity from the CONTRACTOR and/or its surety hereunder or otherwise) or any damages or additional costs or expenses for which the CITY may or shall become liable, no extension of time shall be granted and the CONTRACTOR (and its surety) shall be liable to compensate the CITY for and indemnify it against all such costs, expenses, damages and liability. In addition, the CONTRACTOR shall not only fulfill all of its obligations imposed by this Contract at its own cost and expense, but also work such overtime as may be necessary to make up for all time lost in the performance of the Work and of the Project. Should the CONTRACTOR fail to make up for the time lost by reason of such delay, the CITY shall have the right to hire other contractors to work overtime,

if needed, and to take whatever other action it deems necessary to avoid delay in the completion of the Work and of the Project. The cost and expense of such overtime and/or such other action, including all other consequential damages and expenses, shall be borne by the CONTRACTOR hereunder.

#### **ARTICLE 6. CONTINGENCIES, EXTRA WORK, AND CHANGES**

Whenever the CITY determines that, for any reason deemed to be in the best interests of the Project, the scope of Work or plans for the Project should be revised to provide for changes, deletions, contingencies, additional or extra work, it may issue a Change Order to the CONTRACTOR. Once the CITY has issued and signed a written Change Order in its standard form, the CONTRACTOR shall forthwith comply with the specifications of such Change Order. In such event, allowances for additions and/or deductions to the prices listed in the bid documents will be made commensurate with such changes in the scope or extent of the Work. Any such action by the CITY shall not constitute grounds for a claim by the CONTRACTOR for damages, loss of anticipated profits, or for costs resulting from any variations between the approximate quantities and quality of Work contemplated in the bid documents and as built.

All changes, additions or omissions in the Work ordered in writing by the CITY shall be deemed to be a part of the Work hereunder and shall be performed and furnished in strict accordance with all of the terms and provisions of the Contract Documents based on a negotiated cost for the Work and materials. The CONTRACTOR shall be responsible for keeping its surety informed of all such modifications to this Contract. The obligations of CONTRACTOR's surety shall not be reduced, waived or adversely affected by the issuance of such Change Orders, additions or deductions and the CITY shall not be required to inform the surety of the same or to obtain the consent of the surety to such modifications.

Payment for any unforeseen Work and/or changes shall be made as provided for in the Standard Specifications.

#### **ARTICLE 7. MEANS AND METHODS**

The CONTRACTOR shall supervise and direct the Work using its best skill and attention in order to perform and complete the Project according to the Contract Documents in a timely and workmanlike manner. The CONTRACTOR shall be

responsible for safeguarding the Site and all adjacent property from damage and for implementing all reasonable and necessary construction means, methods, techniques, sequences and procedures for safety precautions, protection against vandalism, and compliance with fire insurance rating bureau procedures, in connection with the performance of the Work. CONTRACTOR further assumes responsibility for all actions and omissions of its agents, employees, subcontractors, suppliers and all of their respective agents, employees and any other person performing any part of the Work.

#### **ARTICLE 8. NO COLLUSION OR FRAUD**

The CONTRACTOR hereby agrees that all persons interested as principal or principals in the bid or proposal submitted by the CONTRACTOR for this Project are named therein; that this Contract has been secured without any connection with any person or persons other than those named; that this Contract was secured without collusion or fraud; and that neither any officer nor employee of the CITY, nor any member of the immediate family of any such person, has or will have a financial interest in the performance of this Contract, in the supplies, Work or business to which it relates, or in any portion of the profits thereof.

#### **ARTICLE 9. ESTIMATES AND PAYMENT**

As the Project progresses in accordance with the Contract and in a manner that is satisfactory to the CITY, the CITY hereby agrees to make payments to the CONTRACTOR, based upon the prices set out in the CONTRACTOR's Proposal. The procedure for processing payments is as follows: on or before the last day of each month the CONTRACTOR shall submit to the CITY, in the form required by the CITY, a written Application For Payment showing the value of the Work performed and in place as of that date. From this amount shall be deducted all previous payments and all charges for services, materials, equipment and other items chargeable to the CONTRACTOR. The balance of such Application must be approved by the CITY and should represent the value of Work done and material furnished in accordance with the terms and conditions of this Contract during the preceding month. The CONTRACTOR shall be paid ninety-five (95%) percent of such amount. The five (5) percent retained shall be held by the CITY until final completion and acceptance of all Work covered by this Contract; compliance by the CONTRACTOR with all of its

responsibilities hereunder including the provision of signed waivers of lien from CONTRACTOR, its subcontractors and suppliers; the posting of a twenty-five percent (25%) maintenance bond by the CONTRACTOR insuring the Project for a period of two (2) years from the date of final acceptance; and the making of all payments due all subcontractors and material suppliers in connection with the Project. Nothing herein shall modify or limit detailed payment provisions contained in the Contract Documents and approved by the Director.

Prior to commencing the Work, the CONTRACTOR shall submit to the CITY a detailed Schedule of Values showing the breakdown of the total contract price into its various parts for approval. The CITY may modify the Schedule of Values, or may require additional information or a more detailed breakdown of costs, subject to their final approval. All Applications for Payments will thereafter be submitted according to the approved payment Schedule.

The CITY reserves the right to advance the date of any payment (including the final payment) under this Contract if, in its judgment, it becomes desirable to do so.

The CONTRACTOR agrees that, if and when requested to do so by the CITY, it shall furnish such information, evidence and substantiation as the CITY may require with respect to the nature and extent of all obligations incurred by the CONTRACTOR for or in connection with the Work, all payments made by the CONTRACTOR thereon, and the amounts remaining unpaid and the reasons therefor.

The CONTRACTOR warrants that: (1) title to Work, materials and equipment covered by an Application for Payment will pass to the CITY either by incorporation in construction or upon receipt of any payment for the same by the CONTRACTOR, whichever occurs first; (2) Work, materials and equipment covered by Applications for Payment shall be free and clear of liens, claims, security interests or encumbrances; and (3) no Work, materials or equipment covered by an Application for Payment shall be acquired by the CONTRACTOR, or any other entity or person performing any Work at the Site or furnishing materials or equipment for the Project, subject to an Contract or arrangement under which any interest therein or an encumbrance thereon is retained by the seller of such or is otherwise imposed by the CONTRACTOR or such other entity or person.

With each Application For Payment the CONTRACTOR shall certify to the CITY that the Work, for which payment is requested, has been fully completed in accordance with the

Contract Documents; that all amounts owed to any subcontractor and subconsultant for Work or materials covered by all previous progress payments have been paid in full; and that the CONTRACTOR has no claim outstanding against the CITY related to this, or any previous progress payment, except any such claim as has been previously served by way of a detailed, verified statement upon the CITY prior to the filing of such Application For Payment. If requested to do so, the CONTRACTOR will file signed Waivers of Lien with each Application for Payment in a form satisfactory to the CITY.

The CONTRACTOR's refusal to accept any payment as tendered shall constitute a waiver of any right to interest thereon.

It is further agreed that so long as the CONTRACTOR fails to comply with any lawful or proper direction concerning the Work or material given by or on behalf of the Director, the CONTRACTOR shall not be entitled to have any estimate made for the purpose of payment. No such estimate shall be rendered until the CONTRACTOR fully and satisfactorily complies with all such directions.

If any of the following occurs: (1) a claim or lien is made or filed with or against the CITY, the Project, or the Project funds by any person claiming that the CONTRACTOR or any subcontractor or other person under subcontract has failed to make payment for any labor, services, materials, equipment, taxes or other items or obligations furnished or incurred for or in connection with the Work; (2) there is evidence of such nonpayment or of any claim or lien for which, if established, the CITY might become liable and which is chargeable to the CONTRACTOR; (3) the CONTRACTOR or any subcontractor or other person under subcontract causes damage to the Work or to any other work on the Project; (4) or if the CONTRACTOR fails to perform or is otherwise in default under any of the terms or provisions of this Contract, the CITY shall have the right to retain from any payment then due or thereafter to become due an amount which it deems sufficient to (i) satisfy, discharge and/or defend against any such claim or lien or any action which may be brought or judgment which may be recovered thereon, (ii) make good any such nonpayment, damage, failure or default, and (iii) compensate the CITY for and indemnify and hold it harmless against any and all actual or potential losses, liabilities, damages, costs and expenses, including legal fees and disbursements, which may be sustained or incurred in connection therewith. The CITY shall have the right to apply and charge against the

CONTRACTOR so much of the amount retained as may be required for the foregoing purposes. If the amount is insufficient therefor, the CONTRACTOR shall be liable for the difference and promptly pay the same to the CITY. No person shall have any right or claim by reason of the CITY's failure or refusal to withhold monies. No interest shall be payable by the CITY on any amounts withheld under this provision.

This provision is not intended to limit or in any way prejudice any other right of the CITY.

No payment (final or otherwise) made under or in connection with this Contract shall be conclusive evidence of the proper performance of the Work or of this Contract, in whole or in part, and no such payment shall be construed to be an acceptance of defective, faulty or improper work or materials nor shall it release the CONTRACTOR from any of its obligations under this Contract; nor shall entrance upon and use of the Site by the CITY constitute acceptance of the Work or any part thereof.

If, in the judgment of the Director, the Project is "substantially," although not entirely, completed, and in this event the withholding of the retained percentage would be an injustice to the CONTRACTOR, the Director may, provided that he receives certification that the essential items in the Contract have been completed in accordance with the terms of the Contract, include in the final account such uncompleted items. The CITY will pay the CONTRACTOR therefor at the item prices in the Contract upon the CONTRACTOR's depositing with the Director a certified check drawn upon a legally incorporated bank or trust company equal to at least double the value of such uncompleted Work. The deposit may be used by the Director to complete the uncompleted portion of the Contract and any unused portion may be returned to the CONTRACTOR upon its satisfactory completion of the uncompleted Work within a specified number of working days after it has been notified to proceed.

#### **ARTICLE 10. PAYMENT TO SUBCONTRACTORS AND SUPPLIERS**

The CONTRACTOR shall, within thirty (30) days after its receipt of payment from the CITY, pay all amounts due any supplier or subcontractor, whether for labor performed or materials furnished hereunder, when such labor or materials have been included in a requisition submitted by the CONTRACTOR and paid by the CITY.

The CONTRACTOR shall include in each of its contracts

and subcontracts hereunder a provision requiring each contractor or subcontractor to pay all amounts due any of its own subcontractors, (second tier subcontractors), whether for labor performed or materials furnished, within thirty (30) days after such contractor or subcontractor is paid by the CONTRACTOR an amount that includes payment for labor or materials furnished by such second tier subcontractor.

#### **ARTICLE 11. FINAL PAYMENT**

Final payment and payment of any amounts retained shall not become due until the following conditions precedent have been met: (1) the CITY accepts the Project and approves of all the Work performed hereunder; (2) the CONTRACTOR submits the following documents satisfactory to the CITY (a) certification that all payrolls, bills for materials, labor and equipment, and all other indebtedness connected with the Project, for which the CITY or CITY's property might be liable, have been paid or otherwise satisfied and that there are no claims, obligations, or liens outstanding or unsatisfied for labor, services, materials, equipment or other items performed, furnished or incurred for or in connection with the Work; (b) written consent of surety, if applicable; (c) a certificate confirming that insurance required by the Contract Documents is to remain in force for the required period of time following completion of the Work; (d) a satisfactory maintenance bond posted with the CITY ensuring the Project in compliance with Section 109-13 of the General Conditions for a period of two (2) years from the date of final acceptance; (e) the CONTRACTOR provides all required certifications that all products and materials comply with applicable specifications and have been properly installed and/or incorporated into the Project including all applicable manufacturers' warranties for same; (f) any other information and documentation establishing payment or satisfaction of all outstanding obligations, to the extent and in such form as may be designated by the CITY, such as, by way of example only, receipts, releases and waivers of liens, including the execution and delivery by the CONTRACTOR, in a form satisfactory to the CITY, of a general release running to and in favor of the CITY; (g) all required Certified Payrolls acceptable to the State of Connecticut Department of Labor; and (h) all Change Orders with sufficient backup/documentation acceptable to the CITY. Should any claim be made or other obligation arise after final payment is made, the CONTRACTOR shall refund to the CITY all expenses paid by the CITY to satisfy, discharge or defend against any such claim, obligation or

lien or any action brought or judgment recovered thereon and all costs and expenses, including legal fees and disbursements, incurred in connection therewith.

If the CONTRACTOR cannot, for reasonable cause not of its own fault, furnish any such information or documentation required by the CITY, the CONTRACTOR may furnish a bond satisfactory to the CITY promising to indemnify the CITY against any Project related, outstanding obligation. If any lien remains unsatisfied after final payments are made by the CITY, the CONTRACTOR shall reimburse the CITY for moneys the CITY may be compelled to pay in discharging such lien, including all costs and reasonable attorneys' fees.

Final payment being tendered by the CITY shall constitute a waiver of claims by the CITY except those arising from:

- A. unsettled liens;
- B. faulty or defective Work or materials;
- C. failure of the Work or materials to comply with requirements of the Contract Documents; or
- D. terms of special warranties provided by the CONTRACTOR, its suppliers, or its subcontractors, or within the Contract Documents.
- E. Claims arising after the authorization of any payment.

Acceptance by the CONTRACTOR, or anyone claiming by or through it, of any interim or final payment hereunder shall constitute and operate as a release of the CITY from any and all claims of any liability or responsibility to the CONTRACTOR for anything done to, furnished for, relating to or in connection with the Project hereunder, and for any act, neglect, default on the part of the CITY or any of its officers, agents, or employees unless the CONTRACTOR serves a detailed and verified statement of claim upon the CITY prior to the acceptance of such payment. Such statement shall specify the items and details upon which the claim is based and any claim shall be limited to such items. The CONTRACTOR's refusal to accept the final payment as tendered shall constitute a waiver of any right to interest thereon.

## **ARTICLE 12. FINAL ACCEPTANCE OF WORK**

When, in the opinion of the Director, the CONTRACTOR has fully performed all the required Work under this Contract and any Change Orders issued for the Project to the CONTRACTOR, the Director shall recommend the acceptance of the Work so completed. If the recommendation is accepted, the CITY shall thereupon notify the CONTRACTOR in writing of such acceptance, and copies of such acceptance shall be sent to other interested parties. However, the CITY has the right to reject the whole or any portion of the Work should it be found or known to be inconsistent with the terms of the Contract Documents or otherwise improper. All certifications upon which partial payments may have been made, being merely estimates, are subject to correction in the final determination or upon final payment.

## **ARTICLE 13. SAFETY**

The CONTRACTOR agrees that it is responsible for preventing accidents and ensuring safety of all persons engaged in the Project or in the vicinity of the Work including members of the general public. The CONTRACTOR shall comply with all laws, ordinances, rules, regulations, codes, standards, orders, notices and requirements concerning safety applicable to the Work, including, among others, the Federal Occupational Safety and Health Act of 1970, as amended, and all standards, rules, regulations and orders which have been or shall be adopted or issued thereunder, and with all safety standards established during the progress of the Work.

The CONTRACTOR shall at all times provide sufficient, safe and proper facilities for the inspection of the Work by the CITY and its authorized representatives in the field, at shops or at any other place where materials or equipment for the Work are in the course of preparation, manufacture, treatment or storage. The CONTRACTOR shall, immediately upon receiving written notice from the CITY, stop any part of the Work which is deemed unsafe and proceed to take down all portions of the Work and remove all materials whether worked or unworked, that may be noted as unsound, defective or improper or as in any way failing to conform to this Contract or the Plans, Specifications or other Contract Documents. The CONTRACTOR, at its own cost and expense, shall replace the same with proper and satisfactory Work and materials and make good all Work damaged or destroyed by or as a result of such unsound, defective, improper or nonconforming Work or materials or

by the taking down, removal or replacement thereof. The CONTRACTOR agrees that it shall not have nor make any claim for costs, damages, delays or extensions of time arising out of such stoppages. Should the CONTRACTOR neglect to take such corrective measures, the CITY may do so at the cost and expense of the CONTRACTOR and may deduct the cost thereof from any payments due or to become due to the CONTRACTOR.

Notwithstanding the foregoing, CONTRACTOR shall at all times be responsible for ensuring the safety of all persons and property at the Site, regardless of any action or failure to act on the part of the CITY. Nothing set forth herein, nor any action or failure to act by the CITY, shall relieve the CONTRACTOR of its obligations and responsibilities with regard to safety and safeguarding of the Site and all persons and property thereon or adjacent thereto.

#### **ARTICLE 14. COMPLIANCE WITH GOVERNMENTAL LAW AND REGULATIONS**

The CONTRACTOR shall comply with all applicable laws, codes and regulations governing the Work and the Project, including any and all special requirements of the Contract Documents, including specifically the City of Norwalk Code Chapter 34 and shall require the same of its Trade Contractors and Subcontractors. In addition, all Trade Contractors and Subcontractors working on the Project shall have, throughout the period of the Work, valid State of Connecticut Department of Consumer Protection issued licenses to do business according to the current, applicable regulations.

##### **A. Equal Employment Opportunity and Affirmative Action**

The CONTRACTOR for itself and all subcontractors and subconsultants employed in connection with the Project shall agree to abide by the provisions of State of Connecticut Executive Orders Numbers 3 and 17 and Presidential Executive Orders Numbers 11246, 11375 and 11063.

The CONTRACTOR or its subcontractors and subconsultants further agree and warrant that in the performance of this Contract it will not discriminate or permit discrimination against any person or group of persons on the grounds of race, color, religious creed, age, marital status, national origin, ancestry, gender

identity or expression, intellectual disability, mental disability or physical disability, including, but not limited to, blindness -unless it is shown by the CONTRACTOR, its subcontractors and/or subconsultants that such disability prevents performance of the Work involved- in any manner prohibited by the laws of the United States or of the State of Connecticut. The CONTRACTOR further agrees to take affirmative action to insure that applicants with job-related qualifications are employed and that employees are treated when employed without regard to their race, color, religious creed, age, marital status, national origin, ancestry, sex, gender identity or expression, intellectual disability, mental disability or physical disability including, but not limited to, blindness -unless it is shown by the CONTRACTOR that such disability prevents performance of the work involved. The terms stated in this paragraph shall be defined as set forth in Connecticut General Statutes Section 4a-60(d).

The CONTRACTOR shall not permit any coercion, intimidation, threatening or interference with any individual in the exercise or enjoyment of, or on account of his or her having exercised or enjoyed, or on account of his or her having aided or encouraged any other individual in the exercise or enjoyment of, any right granted or protected by state or federal laws, including without limitation, the Americans with Disabilities Act.

The CONTRACTOR agrees to comply with any request of the City of Norwalk or the Connecticut Commission on Human Rights and Opportunities to provide information and permit access to pertinent books, records and accounts concerning its employment practices and procedures.

For purposes hereof, discrimination in employment shall include, but need not be limited to, employment advertising, recruitment, layoff, termination, rates of pay or other forms of compensation, conditions or privileges of employment and selection for apprenticeship.

The CONTRACTOR agrees and warrants that it will make good faith efforts to employ minority business enterprises as contractors, subcontractors and suppliers of materials on or related to the Project. For purposes of this paragraph the term "minority business enterprise" shall be defined as set forth in Connecticut General Statutes Section 4a-60(e).

The CONTRACTOR will cause the foregoing provisions to be inserted in all trade contracts and subcontracts for any

Work related to the Project or covered by this Contract so that such provisions will be binding upon each trade contractor and subcontractor.

B. In addition, CONTRACTOR shall comply and shall require its trade contractors and subcontractors who perform any Work in connection with the Project to comply with all current, applicable terms of the following, as the same may be amended from time to time:

- The Civil Rights Act of 1964, as amended;
- Federal Labor Standards (29 CFR Parts 3, 5 and 5a);  
Davis Bacon Act;
- Copeland "Anti-Kickback" Act (18 USC 874), as supplemented in the Department of Labor Regulations (20 CFR - Part 3);
- Flood Disaster Protection Act (PL 93-291);
- Hatch Act (Title 4 USC Chapter 15);
- Section 504 of the Rehabilitation Act of 1973;
- The Americans With Disabilities Act;

C. Prevailing Wage Requirements

This Contract shall be subject to the Connecticut State Prevailing Wage regulations and requirements and applicable prevailing wage rates- as such may be amended or revised from time to time; and

The CONTRACTOR shall comply, at its own cost, with all such applicable prevailing wage rate regulations, as the same may be revised or amended from time to time. Under no circumstances shall the CONTRACTOR be entitled to any additional payment or any increase in the costs, fees or expenses payable by the CITY hereunder, based on any increase in the cost of compliance with applicable regulations, requirements or any increase in the applicable, prevailing wage rates.

D. State Labor and Employment Regulations

Pursuant to Connecticut General Statutes, Section 31-52a, the following provision shall be incorporated into this Contract and each subcontract hereunder insofar as this Contract or any such subcontract relates to a public works project, including, but not limited to, construction, remodeling or repairing of any public facility or structure (except public buildings covered by Section 31-52), site preparation or improvement, appurtenances or highways, or

the preparation or improvement of any land or waterway on or in which a structure is situated or to be constructed:

In the employment of mechanics, laborers or workmen to perform the work specified herein, preference shall be given to residents of the State who are, and continuously for at least six (6) months prior to the date hereof have been, residents of this State, and if no such person is available then to residents of other states.

Pursuant to Connecticut General Statutes, Section 31-53, the following provision shall be incorporated into this Contract and each subcontract hereunder for work relating to the construction of a public works project where the total cost of all Work to be performed in connection with the Project is Four Hundred Thousand Dollars (\$400,000.00) or more, or for work relating to the remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project if the total cost of all work to be performed in connection with such project is One Hundred Thousand Dollars (\$100,000.00) or more:

The wages paid on an hourly basis to any person performing the work of any mechanic, laborer or worker on the Work herein contracted to be done and the amount of payment or contribution paid or payable on behalf of each such person to any employee welfare fund, as defined in subsection (i) of Section 31-53 of the Connecticut General Statutes, shall be at a rate equal to the rate customary or prevailing for the same work in the same trade or occupation in the CITY of Norwalk. Any contractor who is not obligated by Contract to make payment or contribution on behalf of such persons to any such employee welfare fund shall pay to each mechanic, laborer or worker as part of such person's wages the amount of payment or contribution for such person's classification on each pay day.

In the event that the CITY determines that any mechanic, laborer or workman employed by the CONTRACTOR or any subcontractor directly on the Site for the Work contemplated hereunder has been or is being paid a rate of wages less than that required to be paid, as stated herein, the CITY may, by written notice to the CONTRACTOR, terminate the CONTRACTOR's right to proceed with the Work hereunder or such part of the Work for which there has been a failure to pay the required wages. In the event of such

termination, the CITY may prosecute the Work to completion by contract or otherwise and the CONTRACTOR and its sureties shall be liable to the CITY for all costs incurred thereby in excess of the compensation to be paid under this Contract.

Each employer subject to the provisions of Section 31-53 of the Connecticut General Statutes shall comply with the applicable requirements at its own cost and expense and shall not be entitled to any additional payment or increase in its fees payable hereunder as a result of or due to the cost of compliance.

#### **ARTICLE 15. RIGHT TO SUSPEND WORK OR TERMINATE CONTRACT**

A. If, at any time, the CITY determines that the Work hereunder is not being performed according to the Contract or for the best interest of the CITY or should the CONTRACTOR at any time refuse or neglect to supply a sufficient number of skilled workers or materials of the proper quality and quantity; or fail in any respect to prosecute the Work with promptness and diligence; or cause by any act or omission the stoppage, impede, obstruct, hinder or delay of or interference with or damage to the Work of any other contractors or subcontractors on the Project; or fail in the performance of any of the terms and provisions of this Contract or of the other Contract Documents; or should there be filed by or against the CONTRACTOR a petition in bankruptcy or for an arrangement or reorganization; or should the CONTRACTOR become insolvent or be adjudicated a bankrupt or go into liquidation or dissolution, either voluntarily or involuntarily or under a court order, or make a general assignment for the benefit of creditors, or otherwise acknowledge insolvency -- then in any of such events, each of which shall constitute a default hereunder on the CONTRACTOR's part, the CITY shall have the right, in addition to all other rights and remedies provided by this Contract and the other Contract Documents or by law, to temporarily suspend the execution of the Work by the CONTRACTOR and proceed with the Work under its own direction in accordance with the Contract specifications and in such manner as the Director determines to be in the best interests of the CITY or, the CITY may terminate the CONTRACTOR's employment under this Contract while it is in progress, and thereupon proceed with the Project in such manner and by such process as it determines to be in the best interest of the Project.

In any of the foregoing events, the CONTRACTOR shall

not be entitled to receive any further payment under this Contract until the Work shall be wholly completed to the satisfaction of the CITY, as evidenced by written acceptance signed by the Director. All costs, expenses, losses and damages, including attorneys' fees, and all other charges incurred by the CITY for the completion of the Work as a result shall be charged to the CONTRACTOR and deducted by the CITY from any monies due or payable or to become due or payable hereunder. Such costs and expenses shall include not only the cost of completing the Work to the satisfaction of the CITY and of performing and furnishing all labor, services, materials, equipment, and other items required therefor, but also all losses, damages, costs and expenses, (including legal fees and disbursements incurred in connection with reprocurement, in defending claims arising from such default and in seeking recovery of all such costs and expenses from the CONTRACTOR and/or its surety), and disbursements sustained, incurred or suffered by reason of or resulting from the CONTRACTOR's default. If such costs and expenses and other charges exceed the amount stated herein, such excess amount shall be charged to and promptly paid by the CONTRACTOR to the CITY. In computing the amounts chargeable to the CONTRACTOR, the CITY shall not be held to a basis of the lowest prices for which the completion of the Project or any part thereof might have been accomplished, but the CONTRACTOR shall be liable for all sums actually paid or expenses actually incurred in affecting prompt completion of the Project hereunder. The rights described herein are in addition to any other rights and remedies provided by law.

Should the CITY reactivate the performance of the Project, in whole or in part, within one (1) year from the time of suspension, any fees paid to the CONTRACTOR pursuant to this Contract shall be applied as payment on the fees as set forth in the Contract at the time of reactivation. Should reactivation occur after a period of suspension exceeding one (1) year but not sooner, the CONTRACTOR and the CITY may renegotiate the Contract based upon current conditions or may unilaterally elect to terminate the Contract.

Termination or suspension under this section shall not give rise to any claim against the CITY for damages or compensation in addition to that provided hereunder.

#### **ARTICLE 16. INTERPRETATION OF PLANS/SHOP DRAWINGS**

The Work shall be performed and furnished under the

direction and to the satisfaction of the CITY and, where appropriate, its Architect or Engineer. The CONTRACTOR shall be responsible for identifying any ambiguity in, or difference in interpretation of the plans, specifications or other Contract Documents, or between or among any of them, and immediately submitting the issue to the CITY, which will transmit the same to the responsible professional designer (i.e., Professional Engineer or Architect) who shall resolve the same. Any decision in relation thereto shall be final and conclusive upon the parties. The CITY will furnish to the CONTRACTOR any additional information and Plans as may be prepared to further describe the Work and the CONTRACTOR shall conform to and abide by the same.

Notwithstanding the dimensions on the Plans, Specifications and other Contract Documents it shall be the obligation and responsibility of the CONTRACTOR to take such measurements as will insure the proper matching and fitting of the Work covered by this Contract with contiguous work.

The CONTRACTOR shall prepare and submit to the Director such shop drawings as may be necessary to describe completely the details and construction of the Work. Approval of such shop drawings shall not relieve the CONTRACTOR of its obligation to perform the Work according to the Plans, Specifications, the Special Conditions, Addenda and all other Contract Documents, nor of its responsibility for the proper matching and fitting of the Work with contiguous work and the coordination of the Work with other work being performed on the Site, which obligation and responsibility shall continue until completion and acceptance of the Project.

The CONTRACTOR's submission of a shop drawing shall constitute the CONTRACTOR's representation that it has reviewed the submission for accuracy and compliance with all Contract Documents and that, wherever engineering is required to be performed, same has been performed by a qualified and licensed engineer which shall have responsibility therefor.

Should the proper and accurate performance of the Work hereunder depend upon the proper and accurate performance of other work not covered by this Contract, the CONTRACTOR shall carefully examine such other work, determine whether it is in fit, ready and suitable condition for the proper and accurate performance of the Work hereunder, use all means necessary to discover any defects in such other work,

and before proceeding with the Work hereunder, report promptly any such improper conditions and defects to the CITY in writing and allow the CITY a reasonable time to have such improper conditions and defects remedied.

#### **ARTICLE 17. REJECTED WORK AND MATERIAL**

In the event the CITY finds that the materials furnished, the finished Project or the Work performed hereunder by the CONTRACTOR, for any reason, does not conform with the requirements of the Contract Documents including any performance and Project specifications and has resulted or will result in an inferior or unsatisfactory product, the materials or Work shall be removed and replaced or otherwise corrected, to the satisfaction of the CITY, by and at the expense of the CONTRACTOR.

The CONTRACTOR agrees that it shall at once remove from the Site at its own expense all Work or material which may be rejected by the CITY and replace the same with Work or material satisfactory to the CITY. All Work shall be in a first class and satisfactory condition at the time of final acceptance.

#### **ARTICLE 18. LAWS, PERMITS, AND LICENSES**

The CONTRACTOR shall observe all Federal, State, and local laws and regulations and shall procure all necessary licenses and permits, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the Work hereunder without any additional charge or expense to the CITY. CONTRACTOR shall be responsible for and shall correct, at its sole cost and expense, any violation thereof resulting from or in connection with the performance or failure to perform the Work.

The CONTRACTOR shall at any time upon demand furnish such proof as the CITY may require showing such compliance and the correction of such violations. The CONTRACTOR agrees to save harmless and indemnify the CITY, its officers and employees, from and against any and all loss, injury, claims, actions, proceedings, liability, damages, fines, penalties, costs and expenses, including legal fees and disbursements, caused or occasioned directly or indirectly by the CONTRACTOR's failure to comply with any of said laws, ordinances, rules, regulations, standards, orders, notices or requirements or to correct such violations therefor in connection with the performance of

Work.

**ARTICLE 19. EQUAL EMPLOYMENT OPPORTUNITY**

The CONTRACTOR shall agree to provide the Commission on Human Rights and Opportunities with such information requested by the Commission concerning its employment practices and procedures. The CONTRACTOR will cause the foregoing provisions to be inserted in all subcontracts for any of the Work covered by this Contract so that such provisions will be binding upon each subcontractor.

**ARTICLE 20. SUCCESSORS AND ASSIGNS**

This Contract shall bind the successors, assigns and representatives of the parties hereto. Notwithstanding the foregoing, this Contract may not be assigned by the CONTRACTOR nor shall the CONTRACTOR's rights, title or interest herein or hereto be assigned, transferred, conveyed, sublet, or disposed of without the previous written consent of the Director.

**ARTICLE 21. RESPONSIBILITY FOR THE SITE**

At all times throughout the performance of this Contract and until final acceptance of the Work hereunder, the CONTRACTOR shall be in control of and responsible for the Site and for any loss or damage to the Work to be performed and furnished under this Contract, however caused. This shall include responsibility for loss of or damage to materials, tools, equipment, appliances or other personal property owned, rented or used by the CONTRACTOR or anyone employed by it in the performance of the Work, however caused. Accordingly, the CONTRACTOR shall, at its own cost and expense, (1) keep the Site free at all times from all waste materials, packaging materials and other rubbish accumulated in connection with the execution of its Work, (2) clean and remove from its own Work and from all contiguous work of others any soiling, staining, mortar, plaster, concrete or dirt caused by the execution of its Work and make good all defects resulting therefrom, (3) at the completion of its Work in each area, perform such cleaning as may be required to leave the area "broom clean," and (4) at the entire completion of its Work, remove all of its tools, equipment, scaffolds, shanties and surplus materials. Should the CONTRACTOR fail to perform any of the foregoing to the CITY's satisfaction, the CITY shall have the right to perform and complete such Work itself or through others and charge the cost thereof to the CONTRACTOR.

## **ARTICLE 22. INSURANCE**

The CONTRACTOR agrees to obtain at its own cost and expense all insurance required by the attached Insurance Rider and to keep the same in continuous effect for a period of two (2) years following the date on which the Director indicates the termination of the CONTRACTOR's responsibilities hereunder. Before commencing the Project, the CONTRACTOR shall furnish the CITY's Corporation Counsel a certificate of insurance, and shall thereafter provide renewal certificates, as appropriate, evidencing such coverage written by a company or companies acceptable to the CITY. Each insurance certificate shall be endorsed to name the City of Norwalk as an additional insured party and shall provide that the insurance company providing coverage shall notify the CITY by certified mail at least thirty (30) days prior to the effective termination of or any change in the policy or policies coverage. No change in the coverage provided hereunder shall be made without the prior written approval of the Director.

**Waiver of Subrogation: Contractor hereby waives the right to subrogate or seek recovery from City of Norwalk and its insurance carriers.**

## **ARTICLE 23. INDEMNIFICATION**

The CONTRACTOR expressly agrees to at all times indemnify, defend and save harmless the City of Norwalk and its respective officers, agents and employees, on account of any and all demands; claims; damages; losses; litigation; financial costs and expenses, including counsel's fees; and compensation arising out of personal injuries (including death), any damage to property, real or personal, and any other loss, expense or aggrievement directly or indirectly arising out of, related to or connected with the Project and the Work to be performed hereunder by the CONTRACTOR, its employees, agents, subcontractors, material suppliers, or anyone directly or indirectly employed by any of them. The CONTRACTOR shall and does hereby assume and agree to pay for the defense of all such claims, demands, suits, proceedings and litigation. The provisions of this paragraph shall survive the expiration or early termination of this Contract; shall be separate and independent of any other provision or requirement of this Contract; and shall not be limited by reason of any insurance coverage provided hereunder.

The CITY may withhold from any payment due or to become due to the CONTRACTOR an amount sufficient in its judgment to protect and indemnify the CITY, its officers, agents, servants and employees from and against any and all such claims and liabilities described above.

Nothing in this provision, or elsewhere in this Contract, shall be deemed to relieve the CONTRACTOR of its duty to defend the CITY or any Indemnified Party, as specified in this Contract, pending a determination of the respective liabilities of the CONTRACTOR, the CITY, or any Indemnified Party, by legal proceeding or Contract.

In furtherance to but not in limitation of the indemnity provisions in this Contract, CONTRACTOR hereby expressly and specifically agrees that its obligation to indemnify, defend and save harmless as provided in this Contract shall not in any way be affected or diminished by any statutory or constitutional immunity it enjoys from suits by its own employees or from limitations of liability or recovery under workers' compensation laws.

#### **ARTICLE 24. SUBCONTRACTING AND ASSIGNMENTS**

The CONTRACTOR shall not subcontract any portion of the Work to be performed hereunder unless the prior written consent of the Director is given for both the Work to be subcontracted and the subcontractor to perform the same.

In the event that the CITY approves of the hiring of subcontractors or subconsultants to pursue the Project, the CONTRACTOR agrees to cooperate as fully as possible with the CITY and any and all such subcontractors and subconsultants in the interests of the Project. The CONTRACTOR shall be as fully responsible to the CITY for the acts and omissions of its subcontractors and subconsultants as it is for the acts and omissions of its direct employees and shall require any subcontractor or subconsultant approved by the CITY to agree in a written contract to observe and be bound by all obligations and conditions of this Contract to which CONTRACTOR is bound hereby including the requirements regarding insurance and indemnification.

Each subcontract Contract shall preserve and protect the rights of the CITY and the Project Architect/Design Engineer, under the Contract Documents with respect to the Work to be performed by the subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow the subcontractor, unless specifically provided otherwise, the benefits of all rights, remedies and redress

against the CONTRACTOR that the CONTRACTOR has against the CITY pursuant to the Contract Documents.

Nor shall CONTRACTOR assign, sell, transfer, delegate or encumber any rights, duties or obligations arising under this Contract including, but not limited to, any right to receive payments hereunder, without the prior written consent of the CITY in its sole discretion. The giving of any such consent to a particular assignment shall not dispense with the necessity of such consent to any further or other assignments. In the event CONTRACTOR assigns, sells, encumbers or otherwise transfers its rights to any monies due or to become due under this Contract as security for any loan, financing or other indebtedness (herein "Assignment"), notification to the CITY of such Assignment must be sent by certified mail, return receipt requested, and the Assignment shall not be effective as against the CITY until the CITY provides its written consent to such Assignment. CONTRACTOR agrees that any such Assignment shall not relieve the CONTRACTOR of any of its Contracts, duties, responsibilities or obligations under this Contract and the other Contract Documents and shall not create a contractual relationship or a third party beneficiary relationship of any kind between the CITY and assignee or transferee. CONTRACTOR further agrees that all of the CITY's defenses and claims arising out of this Contract with respect to any Assignment are reserved unless expressly waived in writing by a duly authorized corporate officer. CONTRACTOR hereby agrees to indemnify, defend and hold harmless the CITY from and against any and all loss, cost, expense or damages that the CITY has or may sustain or incur in connection with such Assignment.

#### **ARTICLE 25. WARRANTY**

The CONTRACTOR hereby warrants to the CITY that all of the Work shall be in conformance with the Plans, Specifications, and all Contract Documents and shall be of good quality and free from any faults and defects.

The CONTRACTOR shall remove, replace and/or repair at its own expense and at the convenience of the CITY any portion of the Work, materials or equipment which, at any time up until two (2) years from the date of final acceptance of the Work hereunder, the Architect or the CITY shall condemn as unsound, defective or improper or as in any way failing to conform to this Contract or the plans, specifications or other Contract Documents, and the CONTRACTOR, at its own cost and expense, shall replace the same with proper and satisfactory Work, materials and/or

equipment.

Without limiting the generality of the foregoing, the CONTRACTOR warrants to the CITY that all materials and equipment furnished under this Contract will be of first class quality and new, unless otherwise required or permitted by the other Contract Documents; that the Work performed and materials used pursuant to this Contract will be free from any defects and that the Work will conform with the requirements of the Contract Documents. Work not conforming to such requirements, not of the prescribed quality, or not capable of meeting the CITY's performance specifications, including substitutions not properly approved and authorized, shall be considered defective and must be removed and replaced by CONTRACTOR at its own cost and expense. All warranties contained in this Contract and in the Contract Documents shall be in addition to and not in limitation of all other warranties or remedies required and/or arising pursuant to applicable law.

**ARTICLE 26. NOTICE OF CLAIMS**

Claims by either party must be in writing and sent within thirty (30) days following the occurrence of an event giving rise to the claim or within thirty (30) days after the claimant first acquires knowledge of or information concerning the claim, whichever occurs later to the extent that such knowledge or information could not have been reasonably obtained earlier. Claims must be made in writing and sent to the other party at the address(es) listed herein and shall describe the nature of the claim, the events or circumstances that gave rise to the claim with reasonable detail, and the amount thereof to the best of the claimant's information.

**ARTICLE 27. LIQUIDATED DAMAGES**

It is understood by the parties that timely completion of the Project is essential. Failure of the CONTRACTOR to complete the Project by the date stated herein will result in the CITY and the public incurring damages, additional costs and inconveniences that would be impossible or extremely difficult to accurately quantify at the time. Therefore, the parties agree that, if the CONTRACTOR fails to satisfactorily complete the Project hereunder within the time specified or within any extension of time that may have been allowed, there shall be deducted from any monies due or that may become due the CONTRACTOR, the sum of \_\_\_\_\_ **HUNDRED DOLLARS (\$\_\_\_\_\_)** for each and every calendar day, including Saturdays and legal holidays, that the Project remains incomplete in accordance with Article 5

of this Contract. This sum shall not be imposed as a penalty, but as liquidated damages due the CITY from the CONTRACTOR by reason of the damages incurred, inconvenience and additional costs and expenses to the public together with other problems suffered as a result of any such delay thereby occasioned.

#### **ARTICLE 28. GENERAL PROVISIONS**

A. This Contract shall be deemed binding only to the extent that sufficient funds are available and appropriated to the CITY for payment in accordance with the terms hereof and no liability on account of this Contract shall be incurred by the CITY beyond such moneys as are properly made available and appropriated for the Project.

B. The relationship of the CONTRACTOR to the CITY is that of an independent CONTRACTOR. The CONTRACTOR covenants and agrees that it will conduct itself consistent with such status; that it will neither hold itself nor any of its employees or agents out as nor claim to be an officer, agent, or employee of the CITY by reason hereof; and that it will not, neither for itself nor on behalf of any of its employees, agents, or subcontractors, by reason hereof, make any claim, demand or application to or for any right or privilege applicable to an officer or employee of the CITY, including, but not limited to, workers' compensation coverage, unemployment insurance benefits, social security coverage, or retirement membership or credit.

C. The CONTRACTOR hereby certifies that neither it nor its principals are presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any federal or state department or agency. Should the CONTRACTOR be unable to certify the above statement, it shall attach a certified statement explaining such to this Contract. The CONTRACTOR further agrees to include the foregoing certification in any subcontract or purchase order, which it may enter into in furtherance of the Work contemplated hereunder.

D. No member of the governing body of the CITY, and no other officer, employee, or agent of the CITY, shall have any personal interest, direct or indirect, in this Contract, except as permitted by the Code of Ethics of the City of Norwalk; and the CONTRACTOR covenants that no person having such interest shall be employed in the performance of this Contract.



Norwalk, Connecticut 06856-5125

**To the Contractor:**           «VendorAuthorizer»,  
«VendorAuthorizerTitle»  
  
   «VendorName»  
   «VendorAddress1»  
   «VendorCity», «VendorState»  
«VendorZip»

K. The CITY of Norwalk's hiring practices strive to comply with all applicable federal regulations regarding employment eligibility and employment practices. Thus, all individuals and entities seeking to do work for the CITY are expected to comply with all applicable laws, governmental requirements and regulations, including the regulations of the United States

Department of Justice pertaining to employment eligibility and employment practices. The CITY reserves the right at its discretion, but does not assume the obligation to require proof of valid citizenship or, in the alternative, proof of a valid green card for each person employed in the performance of work or services for the City of Norwalk. By reserving this right the CITY does not assume any obligation or responsibility to enforce or ensure compliance with the applicable laws and/or regulations.

L. The Contract and its attached exhibits include applicable State of Connecticut and federal governmental requirements that the Contractor must comply with and must require its subcontractors and consultants to comply with. The Contractor hereby acknowledges that such requirements are subject to revision by the state or federal governmental authorities from time to time during the Contract term and that, by entering into a Contract with the City, the Contractor agrees to be subject to such revised requirements and changes in law or regulations as in effect at any given time and, as a result thereof, shall perform any additional obligations with respect to the particular Project, throughout the term of this Contract. The Contractor shall observe all federal, state and local laws, Ordinances, policies, practices and regulations. In addition, the Contractor agrees to promptly procure all necessary approvals, licenses and permits, pay all charges and fees, and give all notices necessary and incident to the due and lawful prosecution of the Work.

M. In case of a conflict between the provisions of the Contract any state and federal requirements, or any specification, guide, manual, policy, or requirement of

the Contract Documents, or other publication referenced herein, the provision containing additional details or more stringent requirements will control. In case of the Contractor's inability to determine the controlling provision or where it is not possible to comply with the requirements of multiple provisions, the City shall have the right to determine, in its sole discretion, which provision applies. The Contractor shall promptly request in writing the City's determination upon the Contractor's inability to determine the controlling provision or upon becoming aware of any such conflict. This provision shall survive the expiration or termination of the Contract.

N. With respect to any referenced guide, manual, policy, document, or other publication noted in the Contract and noted to be subject to revision throughout the term of the Contract, the Contractor agrees to comply with the version of the document or publication that is in effect on the date effective of the Contract.

O. The Contractor shall cooperate fully with the City and permit the City, or other state or federal authority, as applicable, to review, at any time during the Work, all activities performed by the Contractor with respect to any Work under this Contract. Upon request of the City, the Contractor shall timely furnish all documents related to the Work so that the City may evaluate the Contractor's activities with respect to the Project, including, but not limited to, its performance of the Work pursuant to this Contract, and applicable law.

P. The CONTRACTOR hereby represents to the CITY as follows:

(i) That it is a legally existing corporation under the laws of its state of incorporation and has not previously filed, nor is presently contemplating filing, nor has received notice of a petition of, nor contemplates receiving notice of a petition of, bankruptcy, liquidation, receivership or any other action for the protection of creditors or debtors;

ii) that it has the financial resources to perform this Contract and that it is not the subject of any litigation or action, pending or threatened, regarding this Contract or which, if resulting in an adverse decision, would affect its ability to perform its duties under this Contract;

(iii) that it has, and has exercised, the required corporate power and authority and has complied with all applicable legal requirements necessary to adopt, execute and deliver this Contract and to assume the responsibilities and obligations created hereunder;

(iv) that this Contract is duly executed and delivered by an authorized corporate officer, in accordance with such officer's powers to bind the CONTRACTOR hereunder, and constitutes a valid and binding obligation enforceable in accordance with its terms, conditions and provisions; and

(v) that it is in compliance with all applicable regulations and laws governing employment practices.

**IN WITNESS WHEREOF**, this Contract has been executed in four (4) counterparts by the CITY, acting by and through its Mayor, who has caused the seal of his office to be affixed hereto, and the CONTRACTOR has duly executed this Contract on the day and year first above written.

Signed, Sealed and Delivered  
in the Presence of:

**CITY OF NORWALK**

\_\_\_\_\_  
Witness

By: \_\_\_\_\_

Witness  
«ContractAuthorizer»

Its

«ContractAuthorizerTitle»

Duly Authorized

Date Signed:

\_\_\_\_\_

Signed, Sealed and Delivered  
in the Presence of:

**«VendorName»**

\_\_\_\_\_  
Witness

By: \_\_\_\_\_

Witness

«VendorAuthorizer»  
Its «VendorAuthorizerTitle»  
Duly Authorized

of  
corporation)

(Affix corporate seal  
contractor if a

Date Signed:

\_\_\_\_\_

APPROVED AS TO FORM:  
OFFICE OF CORPORATION COUNSEL

By: \_\_\_\_\_

APPROVED AS TO  
AVAILABILITY OF FUNDS:

By: \_\_\_\_\_  
Comptroller

Date: \_\_\_\_\_

## INSURANCE RIDER

The Contractor shall provide and maintain insurance coverage related to its services in connection with the Project in compliance with the following requirements.

The insurance required shall be written for not less than the scope and limits of insurance specified hereunder, or required by applicable federal, state and/or municipal law, regulation or requirement, whichever coverage requirement is greater. It is agreed and understood that the scope and limits of insurance specified hereunder are minimum requirements and shall in no way limit or preclude the City from requiring additional limits and coverage to be provided under the Contractor's policies.

### Minimum Scope and Limits of Insurance:

**Workers' Compensation Insurance:** With respect to all operations the Contractor performs, it shall carry Workers' Compensation Insurance in accordance with the requirements of the laws of the State of Connecticut.

**Commercial General Liability:** With respect to all operations the Contractor performs it shall carry Commercial General Liability insurance providing for a total limit of One Million Dollars (\$1,000,000) coverage per Occurrence for all damages arising out of bodily injury, personal injury, property damage, products/completed operations, and contractual liability coverage for the indemnification obligations arising under this Agreement. The Annual Aggregate limit shall not be less than Two Million Dollars (\$2,000,000).

**Automobile Liability:** With respect to each owned, non-owned, or hired vehicles the Contractor shall carry Automobile Liability insurance providing One Million Dollars (\$1,000,000) coverage per accident for bodily injury and property damage.

**Umbrella/Excess Liability:** With respect to all operations the Contractor performs, the insurance limits required can be provided with a combination of Umbrella or Excess Liability insurance that would "follow form" of the underlying required terms and conditions.

**Environmental Liability:** If applicable, based on the Contractor's Scope of Work, the Contractor is required to provide environmental and remediation (Contractor's Pollution Liability -CPL-) insurance in the amount of Five

Million Dollars (\$5,000,000) per claim limit and Five Million Dollars (\$5,000,000) aggregate limit per occurrence. If the insurance is provided with a combination of excess pollution liability policies, the policy shall be written on a follow form coverage wording to its underlying Schedule of insurance.

**Errors and Omissions/Professional Liability:** With respect to any damage caused by an error, omission or any negligent or wrongful act of the Contractor or any subcontractor or subconsultant in connection with any professional services performed under this Agreement the Contractor shall carry One Million Dollars (\$1,000,000) coverage per claim.

**"Tail" Coverage:** If any of the required liability insurance is on a "claims made" basis, "tail" coverage will be required at the completion of the Project for a duration of twenty-four (24) months, or the maximum time period reasonably available in the marketplace. Contractor shall furnish certification of "tail" coverage as described or continuous "claims made" liability coverage for twenty-four (24) months following Project completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage, provided its retroactive date is on or before the effective date of this Agreement. If continuous "claims made" coverage is used, Contractor shall be required to keep the coverage in effect for a duration of not less than twenty-four (24) months from the date of final completion of the Project.

**Acceptability of Insurers:** The Contractor's policies shall be written by insurance companies licensed to do business in the State of Connecticut, with an AM Best rating of A-VII, or otherwise acceptable to the City.

**Subcontractors:** The Contractor shall require all subcontractors to provide the same "minimum scope and limits of insurance" as required herein, with the exception of Errors and Omissions/Professional Liability insurance, unless Errors and Omissions/Professional Liability insurance is applicable to the Work performed by the subcontractors. All Certificates of Insurance shall be provided to the City's Corporation Counsel as required herein.

**Aggregate Limits:** Any aggregate limits must be declared to and be approved by the City. It is agreed that the Contractor shall notify the City whenever fifty percent (50%) of the aggregate limits are eroded during the required coverage period. If the aggregate limit is eroded

for the full limit, the Contractor agrees to reinstate or purchase additional limits to meet the minimum limit requirements stated herein. Any premium for such shall be paid by the Contractor.

**Deductibles and Self-Insured Retentions:** Any deductible or self-insured retention must be declared to and approved by the City. All deductibles or self-insured retentions are the sole responsibility of the Contractor to pay and/or to indemnify.

**Notice of Cancellation or Nonrenewal:** Each insurance policy required shall be endorsed to state that coverage shall not be suspended, voided, or cancelled in coverage or in limits before the expiration date except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City. Notwithstanding this requirement, the Contractor is primarily responsible for providing such written notice to the CITY thirty (30) days prior to any policy change or cancellation that would result in a change of the amount or type of coverage provided. In the event of any such change the Contractor shall provide comparable substitute coverage so that there is no lapse in applicable coverage or reduction in the amount of coverage available to the CITY related to the Contractor's services.

**Waiver of Governmental Immunity:** Unless requested otherwise by the City, the Contractor and its insurer shall waive governmental immunity as defense and shall not use the defense of governmental immunity in the adjustment of claims or in the defense of any suit brought against the City.

**Additional Insured:** The liability insurance coverage, except Errors and Omissions, Professional Liability, or Workers' Compensation, if included, required for the performance of the Project shall include the City of Norwalk as an Additional Insured with respect to the Contractor's activities to be performed under this Agreement. Coverage shall be primary and non-contributory with any other insurance and self-insurance.

**Waiver of Subrogation:** Contractor hereby waives the right to subrogate or seek recovery from City of Norwalk and its insurance carriers.

**Certificate of Insurance:** As evidence of the insurance coverage required by this Agreement, the Contractor shall furnish Certificate(s) of Insurance to Corporation

Counsel's Office prior to the Contractor's commencement of services under this Agreement. The Certificate(s) will specify all parties who are endorsed on the policy as Additional Insureds (or Loss Payees). The Certificates and endorsements for each insurance policy are to be signed by a person authorized by the insurer to bind coverage on its behalf. Renewals of expiring Certificates shall be filed thirty (30) days prior to expiration. The City reserves the right to require complete, certified copies of all required policies at any time.

All insurance documents required should be mailed to the City of Norwalk Corporation Counsel, 125 East Avenue, Room 237, P.O. Box 5125, Norwalk, Connecticut 06856-5125.

**Waiver of requirements:** The Corporation Counsel may vary these insurance requirements at Corporation Counsel's sole discretion if Corporation Counsel determines that the City's interests will be adequately protected by the provision of different types or other amounts of coverage.



#### 1.4 INSURANCE REQUIREMENTS

The Contractor shall provide and maintain insurance coverage related to its services in connection with the Project in compliance with the following requirements.

The insurance required shall be written for not less than the scope and limits of insurance specified hereunder, or required by applicable federal, state and/or municipal law, regulation or requirement, whichever coverage requirement is greater. It is agreed and understood that the scope and limits of insurance specified hereunder are minimum requirements and shall in no way limit or preclude the City from requiring additional limits and coverage to be provided under the Contractor's policies.

##### Minimum Scope and Limits of Insurance:

**Workers' Compensation Insurance:** With respect to all operations the Contractor performs, it shall carry workers' compensation insurance in accordance with the requirements of the laws of the State of Connecticut, and employer's liability limits of One Hundred Thousand Dollars (\$100,000.00) coverage for each accident, One Hundred Thousand Dollars (\$100,000.00) coverage for each employee by disease, Five Hundred Thousand Dollars (\$500,000.00) policy limit coverage for disease.

**Commercial General Liability:** With respect to all operations the Contractor performs it shall carry Commercial General Liability insurance providing for a total limit of One Million Dollars (\$1,000,000.00) coverage per occurrence for all damages arising out of bodily injury, personal injury, property damage, products/completed operations, and contractual liability coverage for the indemnification obligations arising under this Agreement. The annual aggregate limit shall not be less than Two Million Dollars (\$2,000,000.00).

**Automobile Liability:** With respect to each owned, non-owned, or hired vehicles the Contractor shall carry Automobile Liability insurance providing One Million Dollars (\$1,000,000.00) coverage per accident for bodily injury and property damage.

**Umbrella/Excess Liability:** With respect to all operations the Contractor performs, the insurance limits required can be provided with a combination of Umbrella or Excess Liability insurance that would "follow form" of the underlying required terms and conditions.

**Environmental Liability:** If applicable, based on the Contractor's Scope of Work, the Contractor is required to provide Contractor's Pollution Liability Insurance in the amount of One Million Dollars (\$1,000,000.00) per claim limit and One Million Dollars (\$1,000,000.00) aggregate limit.

**"Tail" Coverage:** If any of the required liability insurance is on a "claims made" basis, "tail" coverage will be required at the completion of the Project for a duration of twenty-four (24) months, or the maximum time period reasonably available in the marketplace. Contractor shall furnish certification of "tail" coverage as described or continuous "claims made" liability coverage for twenty-four (24) months following Project completion. Continuous "claims made" coverage will be acceptable in lieu of "tail" coverage, provided its retroactive date is on or before the effective date of this Agreement. If continuous "claims made" coverage is used, Contractor shall be required to keep the coverage in effect for a duration of not less than twenty-four (24) months from the date of final completion of the Project.

**Acceptability of Insurers:** The Contractor's policies shall be written by insurance companies licensed to do business in the State of Connecticut, with an AM Best rating of A-VII, or otherwise acceptable to the City.

**Subcontractors:** The Contractor shall require all subcontractors to provide the same "minimum scope and limits of insurance" as required herein, with the exception of Errors and Omissions/Professional Liability insurance, unless Errors and Omissions/Professional Liability insurance is applicable to the Work performed by the subcontractors. All Certificates of Insurance shall be provided to the City's Corporation Counsel as required herein.

**Aggregate Limits:** Any aggregate limits must be declared to and be approved by the City. It is agreed that the Contractor shall notify the City whenever fifty percent (50%) of the aggregate limits are eroded during the required coverage period. If the aggregate limit is eroded for the full limit, the Contractor agrees to reinstate or purchase additional limits to meet the minimum limit requirements stated herein. Any premium for such shall be paid by the Contractor.

**Deductibles and Self-Insured Retentions:** Any deductible or

self-insured retention must be declared to and approved by the City. All deductibles or self-insured retentions are the sole responsibility of the Contractor to pay and/or to indemnify.

**Notice of Cancellation or Nonrenewal:** Each insurance policy required shall be endorsed to state that coverage shall not be suspended, voided, cancelled, or reduced in coverage or in limits before the expiration date except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the City. Notwithstanding this requirement, the Contractor is primarily responsible for providing such written notice to the CITY thirty (30) days prior to any policy change or cancellation that would result in a change of the amount or type of coverage provided. In the event of any such change the Contractor shall provide comparable substitute coverage so that there is no lapse in applicable coverage or reduction in the amount of coverage available to the CITY related to the Contractor's services.

**Waiver of Governmental Immunity:** Unless requested otherwise by the City, the Contractor and its insurer shall waive governmental immunity as defense and shall not use the defense of governmental immunity in the adjustment of claims or in the defense of any suit brought against the City.

**Additional Insured:** The liability insurance coverage, except Errors and Omissions, Professional Liability, or Workers' Compensation, if included, required for the performance of the Project shall include the City as an Additional Insured with respect to the Contractor's activities to be performed under this Agreement. Coverage shall be primary and non-contributory with any other insurance and self-insurance.

**Certificate of Insurance:** As evidence of the insurance coverage required by this Agreement, the Contractor shall furnish Certificate(s) of Insurance to Corporation Counsel's Office prior to the Contractor's commencement of services under this Agreement. The Certificate(s) will specify all parties who are endorsed on the policy as Additional Insureds (or Loss Payees). The Certificates and endorsements for each insurance policy are to be signed by a person authorized by the insurer to bind coverage on its behalf. Renewals of expiring Certificates shall be filed thirty (30) days prior to expiration. The City reserves the right to require complete, certified copies of all

required policies at any time.

All insurance documents required should be mailed to the City of Norwalk Corporation Counsel, 125 East Avenue, P. O. Box 798, Norwalk, Connecticut 06856-0798.

**Waiver of requirements:** The Corporation Counsel may vary these insurance requirements at Corporation Counsel's sole discretion if Corporation Counsel determines that the City's interests will be adequately protected by the provision of different types or other amounts of coverage.

**SECTION 2**  
**PROJECT SPECIFICATIONS/SCOPE OF WORK**

**Note:** *For more information on the project please see the PROJECT MANUAL, TECHNICAL SPECS, SIGNAGE AND DRAWINGS included at the end of the bid package.*

END OF SECTION

## SECTION 3 - GENERAL BIDDING INFORMATION FOR CONSTRUCTION

Rev. 08/08/2013, Express Request Doc. #1006

### 3.1 GENERAL:

A. The City reserves the right to require the successful firm to execute a contract in a format supplied by Corporation Counsel. Award of all or a portion of the requirement may be subject to approval by the Norwalk Common Council.

B. The City of Norwalk General Conditions for Construction and the Contract documents prepared by the City shall govern as the terms and conditions for this project.

1. A copy of the City of Norwalk General Conditions for Construction (04202011) is available upon request. A copy of this document is located on the City's website: Document #1008 <http://www.norwalkct.org/DocumentCenter/Home/View/866>

C. A certified or cashiers check or bid bond in the amount indicated in the **Invitation to Bid** must accompany your response. The certified or cashiers checks will be returned to all unsuccessful candidates upon the awarding of the contract. If your quotation is not accompanied by a bid bond or check at the bid opening the bid will be automatically rejected.

D. The successful firm will be required to furnish a performance bond and labor and materials bond acceptable to Corporation Counsel, each for the full contract amount, prior to execution of a contract and/or performance under Purchase Orders. Indicate the cost for these bonds, included in the lump sum bid(s) on the response form. **Note:** The requirement for a maintenance bond is not contingent on the dollar threshold for other bonds indicated in the invitation to bid. Please refer to Sections 3.17 and 109-15 for maintenance bond requirements.

For 3.1, C & D:

Surety Companies must be listed on the current Federal Register, licensed in the State of Connecticut and have an underwriting limitation exceeding the value of the project with no more than 5% of capitol in surplus tied to any one risk.

Banks must have a branch office in Connecticut with insurance provided by the FDIC.

E. The award of any contract is subject to the following conditions and contingencies:

- (1). The approval of such governmental agencies as may be required by law.
- (2). The appropriation of adequate funds by the proper agencies.
- (3). If the bidder is a corporation or other legal business entity, it must have a current license to do business in the State of Connecticut that is on file with the Connecticut Secretary of State's office, or it must be organized under the laws of the State of Connecticut and current in terms of its required filings.

Note: If you are an out-of state business and the performance of your contract with the City requires that tangible personal property will be used or consumed in this state, you must comply with Connecticut General Statutes 12-430-7 a copy of which can be found at <http://www.ct.gov/drs/cwp/view.asp?A=1514&Q=501308>

Questions concerning this statute should be addressed to the Commissioner of Revenue Services for the State of Connecticut, Department of Revenue Services, 92 Farmington Avenue, Hartford CT 06115.

Registration by out-of state corporations with the Connecticut Secretary of State, 30 Trinity Street, Hartford CT 06106, telephone 860-509-6002, is required by law as a condition for doing business in the State of Connecticut.

F. Notice is hereby given to all bidders that as a municipality the City of Norwalk is subject to and bound to comply with the terms of the Freedom of Information Act. Consequently, please be informed that under the terms of the Act some or all of your submissions, including attachments, may be subject to disclosure to the public or press upon request. The FOI Act recognizes that certain documents are exempt from disclosure or may be held confidentially. However, these exemptions are considered exceptions to the general rule favoring disclosure and are generally narrowly construed. You should consult with legal counsel before making your submission if you have any questions about what submitted document may be disclosed. You are hereby requested to submit those documents to which an exemption is claimed under seal along with those non-exempt documents. These sealed documents shall initially be held in confidence but may be released to the extent required or allowed by law.

G. When work is required in which no specific payment item is listed in the Proposal Form, the cost of such work will be included in the unit prices bid.

### **3.2 QUALIFICATIONS OF CANDIDATES:**

The City may make such investigations as deemed necessary to determine the ability of the candidate to perform the work and the degree to which any candidate meets the criteria for Award listed herein.

### **3.3 RECYCLING POLICY:**

The City of Norwalk is committed to protecting the environment and managing solid waste. Where possible and practical the City will procure recycled and/or recyclable products. The City will consider alternate proposals which maximize the use of products which are produced from post consumer waste, which reduce waste or consumption, or that offer products with a salvage value.

The City requests that its vendors eliminate all non-essential packaging that may be used in the delivery process.

### **3.4 OBLIGATIONS OF THE CANDIDATE:**

At the time of the opening of proposals, each candidate will be presumed to be thoroughly familiar with the specifications, the various sites, the City's requirements, and the objectives for each element of the project item or service.

### **3.5 LABOR RATES:**

See sections 102.18 and 107.12 of the City of Norwalk General Conditions for Construction. NOTE: Prevailing Wage Rates apply when (1) the total cost of work performed on **new construction is \$400,000** or more; or (2) the total cost of all work in connection with an alteration, repair, remodeling, refinishing, refurbishing or **rehabilitation is \$100,000** or more.

### **3.6 SITE INSPECTION:**

Information contained in these documents is provided with the understanding as outlined in section 102-06 of General Conditions for Construction. Candidates are required to conduct a thorough inspection or study of existing conditions/equipment.

### **3.7 INSURANCE REQUIREMENTS:**

A certificate of insurance must be presented to the Corporation Counsel at the time of award and must name the City as an additional insured on the face of the document. In addition, please list the name and address of your insurance agent as part of the returned bid proposal. The City's Standard insurance requirements, if not listed within the bid documents are available on the Purchasing Department's website within the Terms and Conditions section, refer to document number 1007.

All policies must be written on a "per occurrence" basis. "Claims Made" Policies are not acceptable. The Contractor is responsible for the cost of maintaining such insurance throughout the duration of the project.

### **3.8 LIQUIDATED DAMAGES:**

Liquidated damages as defined in Article 27 of the Norwalk General Conditions for Construction will be \$250.00 per day.

### **3.9 RETAINAGE:**

The City will retain 5% of the total project cost until such time as a guarantee bond, satisfactory to the Corporation Council's office is posted with the City (sect. 109-15, Gen. Cond. for Construction) or other terms for retainage are specifically stated in the contract for this project.

### **3.10 ACCEPTABLE BRANDS:**

The attached specifications are not intended to limit consideration to the particular service organization or manufacturer from which they were developed. References to brand names or numbers are to be interpreted as establishing a standard of quality and is not to be construed as limiting competition. Brand names used within these specifications shall be presumed to be followed by the words "or approved equal".

Burden of proving a product and/or material as equal to a specific product and/or material by brand name is the responsibility of the contractor.

Final determination as to what is an "or equal" product will be made by the Purchasing Agent in conjunction with other City staff. The City will award on the basis of the criteria stated herein, and reserves the right to waive or require compliance with any element of the specifications.

### **3.11 HOW TO RESPOND:**

Supply the required information on the response and prequalification form. An authorized agent of your organization must sign and date the response form and any supplementary proposal document.

If a prospective bidder needs clarification or interpretation of any items in the General Conditions, and/or Specifications, he/she must request such in writing, addressed to the Director of Purchasing at least fourteen calendar days prior to the bid opening. Responses shall also be in writing, and shall be distributed to all bidders. The City of Norwalk, or its agents shall not be responsible for any oral instructions or interpretations given to a bidder.

Return the response forms, one original and nine copies of the bid response, bond (if required), and any informational literature to the *City of Norwalk Purchasing Department, Room 103, 125 East Avenue, P.O.Box 5125, Norwalk, Ct. 06856-5125*. Be sure to indicate the request number, name, and opening time on the face of the envelope otherwise we will not be able to insure the confidentiality of the bid.

Late bids – bid submissions delivered or received later than the date and time specified on the invitation to bid will not be considered and will be returned unopened. The bidder shall assume full responsibility for the timely delivery of their submission at the location designated for the receipt of the submissions.

Failure to follow these guidelines may be just cause for rejection of the bid.

### **3.12 CRITERIA FOR AWARD:**

This Request for proposal/bid does not necessarily contemplate an award based solely on price. Rather, the City reserves its rights to accept or reject any and all proposals / bids, or any part thereof, to waive defects in the same, or accept any proposal / bid or a combination of proposals / bids deemed to be in its best interests.

### **3.13 THE RFP PROCESS:**

Bids are advertised as required by law. The City may also mail invitations to businesses as it deems appropriate. Placement on a vendor mailing list or a history of having received invitations in the past or having received prior contract awards in no way obligates the City to continue any form of direct notification. At the discretion of the Purchasing Agent the City may remove vendors from the mailing list for whatever reason including a poor performance history or failure to respond to previous invitations.

Refer any questions that may arise during the solicitation and award process, in writing, to the Purchasing Agent.

### **3.14 TIME PROVISIONS:**

The content of any proposal submitted is to remain valid and available to the City for ninety (90) days from the day proposals are due.

### **3.15 ASSIGNMENT OF CONTRACT:**

The successful candidate agrees that he will not assign, transfer, or subcontract any portion of the award.

### **3.16 INDEMNIFICATION:**

Contractor shall not assert any claim arising out of any act or omission by any agent, officer or employee of the City in the execution or performance of this Agreement against any such agent, officer or employee. Such claims may be made against the City.

No member of the governing body of the City, and no other officer, employee, or agent of the City shall have any personal interest, direct or indirect, in this Agreement, except as permitted by the Code of Ethics of the City of Norwalk; and the Contractor covenants that no person having such interest shall be employed in the performance of this Agreement.

The Contractor expressly agrees to at all times indemnify, defend and save harmless the City of Norwalk and its respective officers, agents, and employees on account of any and all demands, claims, damages, losses, litigation, financial costs and expenses, including counsel's fees, and compensation arising out of personal injuries (including death), any damage to property, real or personal and any other loss, expense or aggrievement directly or indirectly arising out of, related to or in connection with the Project and the work to be performed hereunder by the Contractor, its employees, agents, subcontractors, material suppliers, or anyone directly or indirectly employed by any of them. The Contractor shall and does hereby assume and agree to pay for the defense of all such claims, demands, suits, proceedings and litigation. The provisions of this paragraph shall survive the expiration or early termination of this Agreement and shall not be limited by reason of any insurance coverage.

### **3.17 WARRANTIES, GUARANTEES, & INSTRUCTIONS:**

All work shall be warranted by the Contractor for a minimum period of two (2) years from the date of completion of the work against all defective workmanship and materials furnished by the Company. Where longer periods of Warranty/ Guarantee are required by these specifications, the contract documents, or are provided for by specific or implied warranty of materials, goods or equipment or by general law, the longer period of time will govern.

The Contractor shall promptly replace or repair in a manner satisfactory to the City any such defective work after notice from the City to do so. Work will be assumed to be defective if it is determined by the City that the material or equipment is not performing in a satisfactory manner, consistent with its intended use or operation. If the Contractor fails to make such replacement or repairs, the City may perform or cause to be performed all necessary work and the Company and its sureties shall be liable for all costs thereof.

Original manufacturers' warranties, guarantees, instruction sheets, parts lists, and certificates of title are to be delivered to the Purchasing Agent. Copies of all such materials are to be provided to the department accepting delivery.

**3.18 TERMS AND CONDITIONS:** See Section 4

**3.19 ASSIGNMENT OF ANTITRUST CLAIMS:**

The Contractor offers and agrees to assign to the City of Norwalk all of its right, title and interest in and to any and all causes of action it may have under Section 4 of the Clayton Act, 15 U.S.C. Section 15, or under Chapter 624 of the Connecticut General Statutes, arising out of the purchase of services, goods, property or intangibles of any kind pursuant to a purchase order, contract agreement, subcontract or other form of public purchase by the City of Norwalk. This assignment shall be made and become effective upon award or acceptance by the City of Norwalk of the bid, purchase order or contract agreement with the Contractor without requiring any additional or further act or acknowledgement by the parties.

The Contractor shall include the terms of this assignment to the City of Norwalk in any contract, agreement or purchase document that it may enter into for services, goods, property or intangibles used for or incorporated into any work or materials, performed for or provided to the City of Norwalk.

**3.20 SMOKING POLICY**

No person shall smoke in any municipal or school system facility.

**3.21 BUILDING PERMIT FEES**

Refer to Section 4, 107-01

END OF SECTION

## **SECTION 4**

### **CITY OF NORWALK GENERAL CONDITIONS FOR CONSTRUCTION**

**NOTE:** SECTION 4 contains the City's General Terms and Conditions for construction. Your Firm is responsible for obtaining a copy of this document prior to bidding. If you do not have a revision dated 04/20/2011 or later on file you may download a copy of this document from the Terms and Conditions section of the City of Norwalk's website at [www.norwalkct.org](http://www.norwalkct.org) <http://www.norwalkct.org/DocumentCenter/Home/View/866> Document number 1008.

## 5.1 – LIVING WAGE ORDINANCE

### GENERAL INFORMATION

#### **Rev. 033116, Express Request Doc. #1019**

**NOTE:** SECTION 5.1 contains information concerning City's Living Wage Ordinance. You are responsible for obtaining a copy prior to bidding. If you do not have a revision dated 03/31/2016 or later on file you may download a copy of this Ordinance from the Terms and Conditions section of the City of Norwalk's website at <http://www.norwalkct.org>

Document number **1019:** <http://www.norwalkct.org/DocumentCenter/Home/View/862>

SYMBOL LEGEND

	SECTION NUMBER SHEET NUMBER
	ELEVATION NUMBER (EXTERIOR) SHEET NUMBER
	SHEET NUMBER ELEVATION NUMBER (INTERIOR)
	DRAWING NUMBER SHEET NUMBER
	DRAWING NUMBER
	ELEVATION HEIGHT
	EXTERIOR DOOR NUMBER - SEE SCHEDULE
	WINDOW SCHEDULE NUMBER

MATERIAL LEGEND

EARTH			
CONCRETE			
METAL			
WOOD			
STONE			
BRICK			
GYPSUM			
GLASS			
INSULATION			
GENERAL			

CODE SUMMARY

2013 CONNECTICUT STATE BUILDING & STATE FIRE SAFETY CODE  
 2003 INTERNATIONAL BUILDING CODE  
 STATE BUILDING CODE, 2003, 2009 & 2014 CT. SUPPLEMENTS/AMENDMENTS  
 2003 INTERNATIONAL EXISTING BUILDING CODE  
 2003 INTERNATIONAL MECHANICAL CODE  
 2003 INTERNATIONAL PLUMBING CODE  
 2009 INTERNATIONAL ENERGY CONSERVATION CODE (RE-ADOPTED WITH CHANGES)  
 ICC / ANSI A117.1-2003 ACCESSIBLE & USABLE BUILDINGS & FACILITIES  
 2014 NATIONAL ELECTRICAL CODE (NFPA-70)  
 2005 CONNECTICUT STATE FIRE SAFETY CODE  
 STATE FIRE CODE: 2009 & 2012 CONNECTICUT SUPPLEMENTS  
 2010 CONNECTICUT STATE FIRE PREVENTION CODE

NOTES

- GENERAL:**
1. ALL WORK SHALL COMPLY WITH ALL LOCAL, STATE & OTHER APPLICABLE BUILDING CODES.
  2. THE CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS & DIMENSIONS PRIOR TO COMMENCING WORK. NOTIFY THE ARCHITECT OF ANY DISCREPANCIES FOR JUSTIFICATION AND/OR CORRECTION BEFORE PROCEEDING WITH WORK. CONTRACTOR SHALL ASSUME RESPONSIBILITY FOR ERRORS THAT ARE NOT REPORTED.
  3. THE CONTRACTOR SHALL OBTAIN ALL REQUIRED PERMITS & PAY ALL REQUIRED FEES.
  4. THE OWNER RESERVES THE RIGHT TO REJECT ANY OR ALL BIDS & MAY CHOOSE NOT TO INCLUDE ANY PART(S) OF THE PROJECT.
  5. THE CONTRACTOR SHALL REMOVE & DISPOSE OF ANY CONSTRUCTION DEBRIS AND/OR HAZARDOUS MATERIALS IN A LEGAL MANNER.
  6. THE CONTRACTOR IS SOLELY RESPONSIBLE FOR SITE SAFETY.
  7. THE CONTRACTOR SHALL PROTECT ALL AREAS TO REMAIN FROM DAMAGE DURING HIS OPERATIONS. ANY DAMAGE SHALL BE CORRECTED TO THE OWNER'S SATISFACTION, AT THE CONTRACTOR'S EXPENSE.
  8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY SHORING & BRACING REQUIRED TO MAINTAIN THE STRUCTURAL STABILITY OF THE BUILDING DURING CONSTRUCTION.
  9. ALL SPECIFIED PRODUCTS SHALL BE STORED & INSTALLED AS PER MANUFACTURERS' SPECIFICATIONS & INSTRUCTIONS.
  10. THE GENERAL CONTRACTOR SHALL CHECK & VERIFY THE LOCATION OF ANY UNDERGROUND UTILITIES THAT MAY BE IN THE AREA OF CONSTRUCTION BEFORE STARTING WORK.
  11. ALL CONTRACTORS SHALL CARRY APPROPRIATE INSURANCE, INCLUDING LIABILITY & WORKMENS COMPENSATION.
  12. ALL WORK SHALL BE PERFORMED IN THE BEST & MOST PROFESSIONAL MANNER BY EXPERIENCED MECHANICS, SKILLED IN THEIR RESPECTIVE TRADES.
  13. ALL WORK SHALL BE WARRANTED FOR TWO YEARS FROM THE DATE OF SUBSTANTIAL COMPLETION, UNLESS OTHERWISE SPECIFIED.

- DEMOLITION:**
1. THE CONTRACTOR SHALL COORDINATE DEMOLITION WORK WITH NEW WORK SHOWN ON DRAWINGS AND SHALL CONFORM ALL REQUIRED OPENINGS, OPENINGS, ETC. PRIOR TO START OF WORK.
  2. REMOVE ALL OBJECTS DESIGNATED WITH DASHED LINES, OR AS REQUIRED TO COMPLETE ALL CONTRACT WORK. DISCARD ALL ITEMS NOT INDICATED TO BE SAVED OR RE-USED. REMOVE ALL TRASH, DISCARDED MATERIALS AND EQUIPMENT SCHEDULED FOR REMOVAL IN PROPER CONTAINERS AND REMOVE FROM SITE AND DISPOSE OF ACCORDING TO APPLICABLE STATE AND LOCAL LAWS AND ORDINANCES.
  3. DRAWINGS DO NOT PURPORT TO SHOW ALL OBJECTS EXISTING AT SITE. BEFORE COMMENCING THE WORK, CONTRACTOR MUST VERIFY AT SITE ALL OBJECTS TO BE PRESERVED, AND REPORT ANY DISCREPANCIES OR QUESTIONABLE ITEMS TO THE ARCHITECT.
  4. THE CONTRACTOR SHALL USE ALL NECESSARY MEANS TO PROTECT EXISTING OBJECTS DESIGNATED TO REMAIN AND IN THE EVENT OF DAMAGE, IMMEDIATELY MAKE ALL REPAIRS OR REPLACEMENTS NECESSARY TO RESTORE OBJECTS AND/OR MATERIALS TO THEIR ORIGINAL CONDITION PRIOR TO DEMOLITION WORK.
  5. THE CONTRACTOR SHALL COORDINATE ACTUAL DEMOLITION WORK AND REMOVALS WITH THE BUILDING OWNER. BUILDING OWNER SHALL NOTIFY THE CONTRACTOR AS TO WHICH ITEMS ARE TO BE RETURNED TO THE BUILDING AND SPECIAL CONDITIONS, IF ANY, THAT APPLY TO THOSE ITEMS.
  6. THE CONTRACTOR SHALL TAKE ALL CARE NOT TO DAMAGE ANY EXISTING FIRE PROTECTION EQUIPMENT OR ANY OTHER ACTIVE EQUIPMENT OR SYSTEMS THAT ARE TO REMAIN OPERATIONAL DURING THE CONSTRUCTION PERIOD.
  7. THE CONTRACTOR SHALL PROVIDE ALL NECESSARY SHORING AND BRACING PRIOR TO ANY CUTTING OR DEMOLITION OF ANY BEARING ELEMENTS, NON-LOAD BEARING ELEMENTS SUPPORTING EQUIPMENT TO REMAIN AND/OR OTHER AREAS REQUIRING TEMPORARY SUPPORT DURING DEMOLITION AND NEW CONSTRUCTION WORK.
  8. THE CONTRACTOR SHALL CHECK AND VERIFY THE LOCATIONS OF ANY UTILITIES THAT MAY BE IN THE AREA OF CONSTRUCTION BEFORE STARTING WORK. UTILIZE OUTSIDE AGENCIES SUCH AS "CALL BEFORE YOU DIG CONNECTICUT" AS NECESSARY.
  9. THE CONTRACTOR SHALL MAINTAIN ALL UTILITIES TO THE BUILDING AT ALL TIMES. COORDINATE THE SHUT-OFF, CAPPING, DEADENDING AND REMOVAL OF GAS, ELECTRIC POWER METERS, TELEPHONE, WATER SUPPLY, SECURITY AND OTHER UTILITIES WITH THE OWNER.
  10. ANY HAZARDOUS MATERIALS SHALL BE ABATED AND/OR REMOVED FROM THE SITE FOLLOWING ALL PROPER LOCAL, STATE AND NATIONAL STANDARDS & PROCEDURES.
  11. REFER TO DRAWINGS FOR BUILDING ELEMENTS, APPLIANCES OR FIXTURES TO BE REMOVED.
  12. REMOVE ALL MECHANICAL, ELECTRICAL, PLUMBING APPURTENANCES, ETC. AS REQUIRED TO COMPLETE ALL CONTRACT WORK.

PROJECT TITLE

# Facade Repairs at NORWALK PUBLIC LIBRARY

1 Belden Avenue  
Norwalk, Connecticut



July 14, 2016



39 Wall St. Suite 1  
Norwalk, CT 06850  
Tel: (203) 831-8808  
Fax: (203) 831-8780  
Email: GillandGill.com

ABBREVIATIONS

A.F.F. ABOVE FINISHED FLOOR	FIN. FINISH (ED)	O.C. ON CENTER (S)	U.O.N. UNLESS OTHERWISE NOTED
ADJ. ADJACENT	F.R. FIRE RESISTANT	OPP. OPPOSITE	V.B. VAPOR BARRIER
ADJ. ADJUSTABLE	F.R.T. FIRE RETARDANT TREATED	O.D. OUTSIDE DIAMETER	VAR. VERTICAL
A/C AIR CONDITIONING	FL. FLOOR	O.A. OVERALL	VEST. VESTIBULE
ALT. ALTERNATE	FL.R. FLOOR (ING)	P.H. PLATE HEIGHT	V. VINYL
ALUM. ALUMINUM	F.D. FLOOR DRAIN	P.T. PRESERVATIVE TREATED	V.C.T. VINYL COMPOSITION TILE
A.S. ANCHOR BOLT	FLUOR. FLUORESCENT	PTD. PAINT (ED)	V.I.F. VERIFY IN FIELD
APPRX. APPROXIMATE	FT. (I) FOOT	P.V.M.T. PAVEMENT	W.S.C.T. WANSICOT
ARCH. ARCHITECT (URAL)	FT.G. FOOTING	P.L.A.M. PLASTIC LAMINATE	W.C. WATER CLOSET
A.D. AREA DRAIN	FND. FOUNDATION	PL. PLATE	W.P. WATERPROOFING
B.S.M.T. BASEMENT	G.A. GAGE GAUGE	PL.M. PLUMBING	W.R. WATER RESISTANT
B.M. BEAM	GAL.V. GALVANIZED	PL.W.D. PLYWOOD	W.T. WEIGHT
B.P.L. BEARING PLATE, BASE PLATE	G.C. GENERAL CONTRACTOR	P.C.F. POUNDS PER CUBIC FOOT	W.W.F. WELDED WIRE FABRIC
B.E.T. BETWEEN	GL. GLASS, GLAZING	P.L.F. POUNDS PER LINEAL FOOT	W. WEST, WDE, WIDTH
B.V.L. BEVELED	G.W.B. GYPSUM WALLBOARD	P.S.F. POUNDS PER SQUARE FOOT	W/W WITH
BIT. BITUMINOUS	GYP. GYPSUM	P.S.I. POUNDS PER SQUARE INCH	W/W.M WELDED WIRE MESH
BL.K. BLOCK	HDW. HARDWARE	P.L. PROPERTY LINE	W/O WITHOUT
BL.K.G. BLOCKING	HDW.D. HARDWOOD	Q.T. QUARRY TILE	W.D. WOOD
B.D. BOARD	HDR. HEADER	R. RISER(S)	
B.O.T. BOTTOM	H.V.A.C. HEATING/VENTILATION/AIR CONDITIONING	R.A.D. RADIUS	
B.L.D.G. BUILDING	HT. HEIGHT	R.E.C.P. RECEPTACLE	
B.U.R. BUILT UP ROOFING	H. HIGH	R.E.F. REFERENCE	
C.A.B. CABINET	H.P. HIGH POINT	R.E.F.R. REFRIGERATOR	
C.P.T. CARPET (ED)	HORIZ. HORIZONTAL	R.E.G. REGISTER	
C.L.G. CEILING	H.B. HOSE BIBB	R.E.I.M.F. REINFORCE (D), (ING)	
C.E.M. CEMENT	H.W. HOT WATER	R.E.Q.D. REQUIRED	
C.F.M. CUBIC FOOT PER MINUTE	H.R. HOUR	R.A. RETURN AIR	
C.F.M. CENTER	I.D. INSIDE DIAMETER	R.E.V. REVISION (S), REVISED	
C.T. CERAMIC TILE	INSUL. INSULATE (D), (OM)	R.M. ROOM	
C.L.R. CLEAR (ANCE)	INT. INTERIOR	R.O. ROUGH OPENING	
C.L.O. CLOSET	J.T. JOINT	S.H.T. SHEET	
C.O.L. COLUMN	KIT. KITCHEN	S.I.M. SIMLAR	
CONC. CONCRETE (CAST-IN-PLACE)	L.A.M. LAMINATE (D)	S. SOUTH	
C.M.U. CONCRETE MASONRY UNIT	L.A.V. LAVATORY	S.P.E.C. SPECIFICATION (S)	
CONSTR. CONSTRUCTION	L. LENGTH	S.Q. SQUARE	
CONT. CONTINUOUS OR CONTINUE	L.P. LOW POINT	S.S. STAINLESS STEEL	
COORD. COORDINATE	M.F.R. MANUFACTURE (R)	STD. STANDARD	
CORR. CORRIDOR	M.A.S. MASONRY	STL. STEEL	
C.W. COLD WATER	M.O. MASONRY OPENING	STOR. STORAGE	
D. DEEP, DEPTH	M.T.L. MATERIAL (S)	STRUCT. STRUCTURAL	
DET. DETAIL	M.A.X. MAXIMUM	SUSP. SUSPENDED	
DIA. DIAMETER	M.E.C.H. MECHANIC (AL)	SYM. SYMMETRY (CAL)	
DIM. DIMENSION	M.T.L. METAL	S.Y.S. SYSTEM	
DWG. DRAWING	M.S.C. MISCELLANEOUS	TEL. TELEPHONE	
ELEC. ELECTRIC (AL)	M.R. MOISTURE RESISTANT, MOP RECEPTOR	TV. TELEVISION	
E.L. ELEVATION	M.T.(D.) MOUNT (ED), (ING)	TEMP. TEMPERED	
EQ. EQUAL	N.L. NO LIMIT	THK. THICK (NESS)	
EQUIP. EQUIPMENT	N.O.M. NOMINAL	T&G TONGUE AND GROOVE	
EXIST. EXISTING	N. NORTH	T.O.S. TOP OF SLAB	
EXT. EXTERIOR	N/A NOT APPLICABLE	T.O.S.T.L. TOP OF STEEL	
	N.I.C. NOT IN CONTRACT	T.O.W. TOP OF WALL	
	N.T.S. NOT TO SCALE	T. TREAD	
	NO. OR #NUMBER	T.Y.P. TYPICAL	

LOCATION MAP



DRAWING LIST

COVER A-1 SPECIFICATIONS, NOTES, LEGENDS, ABBREVIATIONS & LOCATION MAP  
 ELEVATIONS & DETAILS

**GENERAL NOTES**

- REFER TO APPENDIX A FOR PHOTOGRAPHS.
- REFER TO APPENDIX B FOR LEAD-BASED PAINT REMEDIATION SPECIFICATIONS.
- SCRAPE, SAND & RE-PAINT ALL EXISTING WOOD TRIM, INCLUDING SOFFITS, RAKES, MOULDINGS, BRACKETS, ETC. FILL ANY MINOR HOLES, SPLITS OR GOUGES BEFORE SANDING & RE-FINISHING.
- SCRAPE, SAND & RE-PAINT ALL EXISTING WINDOW TRIM. FILL ANY MINOR HOLES, SPLITS OR GOUGES BEFORE SANDING & RE-FINISHING.
- RE-POINT BRICK VENEER ON FACADE OF BUILDING AS REQUIRED BY LEGEND. PROTECT ALL AREAS & FIXTURES & ADJACENT APPURTENANCES.
- REPLACE ALL DAMAGED BRICKS WITH BRICKS TO MATCH EXISTING.
- RE-POINT EXISTING CAST STONE JOINTS AS REQUIRED BY LEGEND.
- RE-FINISH STUCCO TO MATCH EXISTING TEXTURE & COLOR.
- CLEAN JOINT & REMOVE EXISTING SEALANT. PROVIDE NEW SEALANT AS REQUIRED BY LEGEND ABOVE.

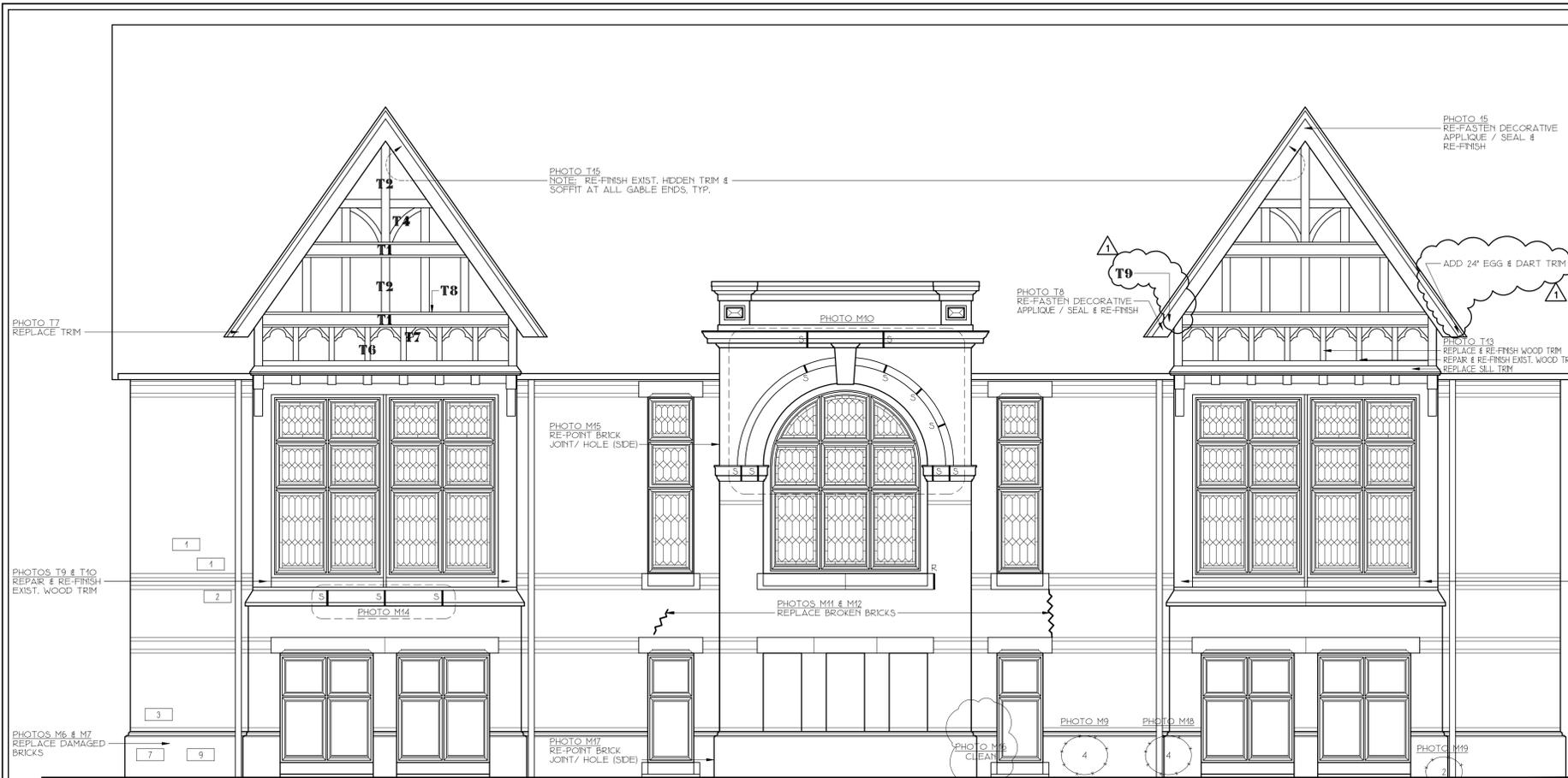
**LEGEND**

- REPLACE DAMAGED BRICK(S) NUMBER INDICATES NUMBER OF BRICKS TO BE REPLACED
- PATCH DAMAGED CONCRETE WITH GEL AS PER SPECIFICATIONS. SYMBOL INDICATES APPROXIMATE LOCATION OF AREA TO BE PATCHED
- SEAL CRACKS AS PER SPECIFICATIONS (NOTE 7). LINE INDICATES APPROXIMATE LOCATION OF AREA TO BE SEALED
- RE-POINT BRICK VENEER NUMBER INDICATES APPROXIMATE AREA (SQ. FT.) TO BE RE-POINTED
- RE-POINT BRICK JOINT LINE INDICATES APPROXIMATE LOCATION TO BE RE-POINTED
- SEAL JOINT LINE INDICATES APPROXIMATE LOCATION OF JOINT TO BE SEALED
- CLEAN BRICK AREA

**UNIT PRICE TRIM LEGEND**

NOTE: CONTRACTOR IS TO PROVIDE A UNIT PRICE TO REMOVE, REPLACE & RE-FINISH TRIM WITH BOARD TO MATCH EXISTING.

<b>T1</b> WIDE HORIZONTAL - PRICE PER LINEAR FOOT	<b>T5</b> NARROW HORIZONTAL	<b>T9</b> DECORATIVE RAKE APPLIQUE - PER LINEAR FOOT
<b>T2</b> WIDE VERTICAL - PRICE PER LINEAR FOOT	<b>T6</b> NARROW VERTICAL - PRICE PER LINEAR FOOT	
<b>T3</b> DIAGONAL	<b>T7</b> SCULPTURED CURVE	
<b>T4</b> CURVED DIAGONAL	<b>T8</b> EGG & DART - PRICE PER LINEAR FOOT	

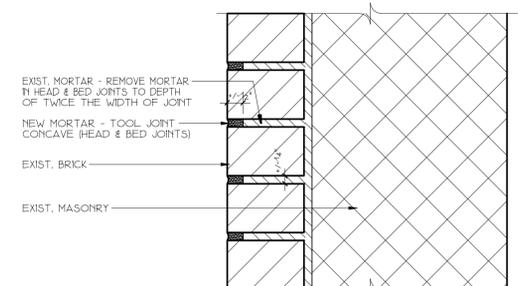


**3 PARTIAL NORTH ELEVATION**  
SCALE: 1/4" = 1'-0"

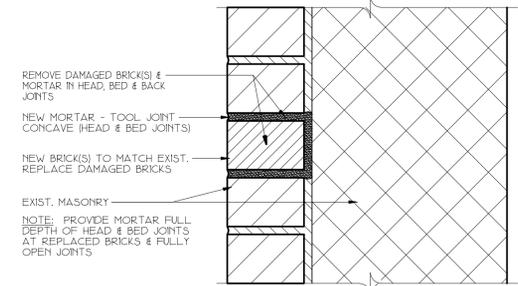


**2 PARTIAL WEST ELEVATION**  
SCALE: 1/4" = 1'-0"

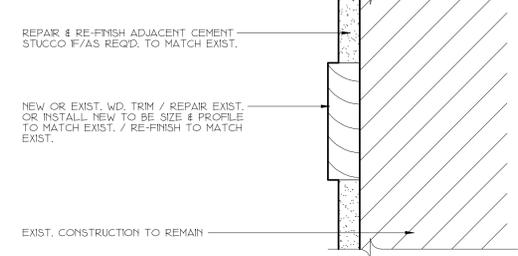
**1 PARTIAL EAST ELEVATION**  
SCALE: 1/4" = 1'-0"



**6 BRICK JOINT RE-POINTING**  
SCALE: 3" = 1'-0"



**5 BRICK REPLACEMENT**  
SCALE: 3" = 1'-0"



**4 WOOD TRIM**  
SCALE: 3" = 1'-0"

03 AUG 2016 REVISION 1  
14 JULY 2016 ISSUED FOR BIDS

FACADE REPAIRS AT  
**NORWALK PUBLIC LIBRARY**  
1 BELDEN AVENUE NORWALK, CT

DATE: 14 JULY 2016  
REVISED:  
SCALE: AS NOTED  
DWG. NAME: ELEVATIONS & DETAILS

**Gill Architects**  
39 Wall St. Suite 1  
Norwalk, CT 06850  
Tel: (203) 831-8808  
Fax: (203) 831-8780  
www.GillLandGill.com

FILE NAME: BASE1450.DWG  
DWG. NO.: **A-1**

# PROJECT MANUAL



**Façade Repairs at  
NORWALK PUBLIC LIBRARY  
1 Belden Avenue, Norwalk, CT 06850**

Project Number:.....

**GILL & GILL Architects**  
39 Wall Street, Norwalk, CT 06850

July 14, 2016

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Division 6	<u>Woods, Plastics and Composites</u> 06250 Exterior Wood Restoration 06400 Architectural Woodwork
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Division 9	<u>Finishes</u> 09900 Painting
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Appendix B	Lead-Based Paint Remediation Plan

END OF DOCUMENT

Facade Repairs at  
NORWALK PUBLIC LIBRARY

LIST OF DRAWINGS

Cover A-1	Codes, Notes, Legends, Abbreviations and Location Map Elevations & Details
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END OF DOCUMENT

PART 1 – GENERAL

1.01 SUMMARY

- A. Project Identification: Façade Repairs at  
Norwalk Public Library  
1 Belden Avenue  
Norwalk, CT 06850
- B. Project Summary and Scope of Work shall include but shall not be limited to:
1. Selective removal of existing wood gable, rake and soffit trim. Replacement, re-finishing and sealing of wood trim.
  2. Abatement and disposal of lead-based paint. Contractors bidding on this project need to be State certified for lead handling, abatement and disposal.
  3. Selective removal of broken bricks and replacement with bricks to match existing.
  4. Re-pointing brick joints.
  5. Owner's representative is Mike Sgobbo, Guardian Facility Services, 125 East Avenue, Norwalk, CT 06851 telephone: (203) 854 7709 fax: (203) 854 4084.
    - a. The schedule for completion of the work is 60 days from written notice to proceed from the Owner.
    - b. All work under this contract shall be warranted for a period of (2) two years, in addition to warranties required under specific conditions of this Specification.
- C. Permits and Fees: Apply for, obtain, and pay for permits, fees, and utility company back charges required performing the work. Submit copies to Owner.
- D. Codes: Comply with applicable codes and regulations of authorities having jurisdiction. Submit copies of inspection reports, notices and similar communications to Owner.
- E. Dimensions: Verify dimensions indicated on drawings with field dimensions before fabrication or ordering of materials. Do not scale drawings.
- F. Construction Conditions: Notify owner of conditions differing from those indicated on the drawings. Do not remove or alter structural components without prior written approval.
- G. Coordination:
1. Coordinate the work of all trades.
- H. Installation Requirements, General:
1. Inspect substrates and report unsatisfactory conditions in writing.
  2. Do not proceed until unsatisfactory conditions have been corrected.
  3. Take field measurements prior to fabrication where practical. Form to required shapes and sizes with true edges, lines and angles. Provide inserts and templates as needed for work of other trades.

Façade Repairs at  
NORWALK PUBLIC LIBRARY

4. Install materials in exact accordance with manufacturer's instructions and approved submittals.
5. Install materials in proper relation with adjacent construction and with proper appearance.
6. Restore units damaged during installation. Replace units, which cannot be restored at no additional expense to the Owner.
7. Refer to additional installation requirements and tolerances specified under individual specification sections.
8. Contractor to clean all areas of work following completion of project, including glass and sills.

I. Definitions:

1. Provide: Furnish and install, complete with all necessary accessories, operational and functional, ready for intended use. Pay for all related costs.
  2. Approved: Acceptance of item submitted for approval. Not a limitation or release for compliance with the Contract Documents or regulatory requirements. Refer to limitations of 'Approved' in General and Supplementary Conditions.
  3. Match Existing: Match existing as acceptable to the Owner.
- J. Intent: Drawings and specifications are intended to provide the basis for proper completion of the work suitable for the intended use of the owner. Anything not expressly set forth but which is reasonable implied or necessary for proper performance of the project shall be included.
- K. Writing style: Specifications are written in the imperative mode. Except where specifically intended otherwise, the subject of all imperative statements is the Contractor. For example, 'Provide tile' means 'Contractor shall provide tile.'

END OF SECTION 01010

PART 1 - GENERAL

1.01 SUMMARY

- A. Provide cutting and patching work to properly complete the requirements of the project for:
  - 1. Structural work
  - 2. Mechanical, electrical and plumbing systems.
  - 3. Visual requirements, including detailing and tolerances.
  - 4. Operational and safety limitations.
  - 5. Fire resistance ratings.
  - 6. Inspection, preparation, and performance.
  - 7. Cleaning
- B. Do not cut and patch in a manner that would result in a failure of the work to perform as intended, decrease energy performance, increase maintenance, decrease operational, or decrease safety.
- C. All cutting and patching operations shall be conducted under the direct supervision of the General Contractor.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Match existing materials for cutting and patching work with new materials conforming to project requirements.

PART 3 - EXECUTION

3.01 MATERIALS

- A. Inspect conditions prior to work to identify scope and type of work required. Protect adjacent work. Notify Owner 48 hours in advance of work requiring interruption to building services or Owners operations.
- B. Perform work with workmen skilled in the trades involved.
- C. Cutting: Use cutting tools, not chopping tools. Make neat holes. Minimize damage to adjacent work. Check for concealed utilities and structure before cutting.
- D. Patching: Make patches, seams, and joints durable and inconspicuous. Comply with tolerances for new work.
- E. Clean work area and areas affected by cutting and patching operations daily or at regular intervals during the work week, or as directed by the Architect or Owner.

END OF SECTION

PART 1 - GENERAL

- A. Provide coordination of work including but not limited to:
  - 1. Supervisory personnel.
  - 2. Pre-Construction Conference.
  - 3. Progress meetings at one week intervals.
  - 4. Other meetings as required by project conditions and progress.
- B. Submit Project Schedule in bar chart form within 7 days of Notice to Proceed from Owner.
- C. Submit Shop Drawing Submittal Schedule coordinated with project schedule prior to commencement of work.
- D. Submit Shop Drawings with all information necessary for evaluation by architect in a legible fashion and in accordance with Shop Drawing submittal Schedule.
- E. Submit Schedule of Values on AIA Document G703.  
Submit list of subcontractors.
- F. Notify Owner at least 48 hours in advance of tests required for systems and equipment.
- G. Retain on site one set of progress documents as record drawings and specifications to be maintained and annotated by the Contractor on a regular basis as work progresses. These record documents are to be submitted to the Architect at the completion of the project. Submission of a complete set of record documents is required to close out the project and to receive final payment.
- H. Submit four original notarized copies of payment requests on AIA Document G702.
- I. Submit certified payroll documentation weekly.
- J. Post a list of emergency telephone numbers and addresses for individuals to be contacted in case of emergency.

PART 2 - PRODUCTS – Not Applicable To This Section

PART 3 - EXECUTION

3.01 MINOR CHANGES IN THE WORK

- A. Supplemental instructions authorizing minor changes in or clarifications of the work which do not involve an adjustment to the contract sum or the contract time, will be issued by the Architect in the form of a Clarification.

3.02 CHANGE ORDER PROPOSAL REQUESTS

- A. Owner Initiated Proposal Requests: Proposed changes in the scope of work that will require adjustment to the contract sum or time frame will be issued by the Architect in the form of a Bulletin with a detailed description of the proposed change and supplemental or revised drawings or specifications if required.

- 1. Bulletins issued by the Architect are for pricing of the proposed change only

and are not to be considered direction to stop work in progress or to execute the proposed change.

- B. Upon receipt of the Architect's bulletin, the Contractor shall prepare an itemized estimate of costs necessary to execute the proposed change including the following information:
  - 1. Breakdown of all General Contractor labor costs.
  - 2. Breakdown of all General Contractor material costs.
  - 3. General Contractor markup percentage of 15% for work done with his forces.
  - 4. Breakdown of all Subcontractor(s) labor costs.
  - 5. Breakdown of all Subcontractor(s) material costs.
  - 6. Subcontractor markup of 15%.
  - 7. General Contractor's markup of 10% on Subcontractor's "net cost" (without Subcontractor overhead and profit markup percentages).
  - 8. Statement indicating the effect of the proposed changes on the contract time.

3.03 CONTRACTOR INITIATED REQUEST FOR CLARIFICATION OR CHANGES

- A. When latent or unforeseen conditions require modification to the Contract, with or without adjustment to the contract sum or time frame, the Contractor shall submit such proposed change request or request for project clarification to the Architect in the form of a Request for Information (RFI).
- B. All RFI's shall be sequentially numbered.
  - 1. RFI's dealing with a proposed change shall include a statement outlining the reasons for the change and the effect of the change on the work.
  - 2. RFI's dealing with project clarification shall state the clarification required (drawings, specification, design intent, etc.) and shall allow the Architect sufficient time to review the applicable data or field condition.

3.04 CHANGE ORDER PROCEDURE

- A. Upon the Owner's approval of a Change Order Proposal Request, the Contractor shall prepare a formal change order on AIA Form G701, for signature of the Owner and Architect.
- B. All Change Orders must be reviewed and approved by the Owner and Architect before the Contractor may proceed with changes in the work, unless prior specific direction to proceed has been given by the Owner in the interest of timely project completion.

3.05 PRECONSTRUCTION CONFERENCE

- A. Contractor shall schedule a Pre Construction Conference and organizational meeting on the same day as the execution of the Agreement and prior to commencement of any construction activities. Contractor is required to review project schedule and State and federal regulations.
- B. Attendees: Owner, Architect, Contractor, and his superintendent, major subcontractors, and other concerned parties shall each be represented at the conference by persons familiar with and authorized to conclude matters pertaining to the work.
- C. Agenda: Discuss items of significance to the project including:
  - 1. Construction schedule, project phasing, progress meeting date and time.
- D. Contractor to notify tenants prior to commencing work on each building.

END OF SECTION 01100

PART 1 - GENERAL

1.01 SUMMARY

A. Selective Demolition

1. Selective demolition of wood gable, soffit and rake trim.
2. Selective removal of broken bricks.
3. Protection of portions of building adjacent to or affected by selective demolition.
4. Abatement and disposal of lead-based paint.
5. Notification to Owner of schedule of shut-off of utilities.
6. Pollution control, including noise and dust, during selective demolition.
7. Removal and legal disposal of materials.

B. There is no known asbestos containing materials or pcbs present at the project. If Contractor suspects hazardous materials, it must be brought to the attention of the Owner and Architect. At any extra cost to the Owner, the Contractor will be responsible to remove and dispose of asbestos containing materials that are required to complete the work. Abatement and disposal shall be in accordance with all applicable local, state and national codes, standards and regulations.

1.02 QUALITY ASSURANCE

A. Comply with governing codes and regulations. Use experienced workers.

1.03 PROJECT CONDITIONS

A. The building is occupied and provisions must be made to protect the staff and public during demolition and construction. Protect all entrances to each building being worked on with scaffolding, planks and tarps. Protect work areas with six feet high minimum construction barriers and / or fences. Post warning signs. Remove all tools at the end of each work day. Remove all debris during the course of the work day. Noise from equipment, machinery, tools and personnel should be kept to minimum levels.

PART 2 - PRODUCTS - Not Applicable To This Section

PART 3 - EXECUTION

3.01 DEMOLITION

A. Do not damage building elements and improvements indicated to remain. Items of salvage value shall be removed from building. Storage or sale of items at project is not acceptable.

SELECTIVE DEMOLITION  
SECTION 01732-2

- B. Do not interrupt building utilities without permission from Owner in writing. Provide temporary utilities as required.
- C. Provide protection against accidental trespassing and secure area of work after hours.
- D. Contractor to coordinate with Owner as to location of dumpsters and building materials. Contractor is to protect grounds and paved areas from damage by dumpsters. Damage to grounds and paved areas by dumpsters, machinery and equipment is to be repaired by contractor at his expense.
- E. Cut and remove selective wood trim and bricks as directed by drawings. Do not disturb adjacent construction.
- F. Refer to drawing cover sheet for additional demolition notes.

END OF SECTION

**PART 1 - GENERAL**

1.01 DESCRIPTION

- A. This specification provides procedures appropriate for preparing lime or Portland based stucco for repair and maintenance of historic buildings.
- B. This specification has been developed for use on historic properties (defined as any district, site, building, structure, or object that is listed in or eligible for listing in the National Register of Historic Places) and provides an overview of accepted practices.
- C. All work described herein and related work must conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties.
- D. The Contractor shall provide all labor, materials, equipment, and operations required to complete the rehabilitation work indicated herein.
- E. All work described herein and related work must have the approval of a Cultural Resources Manager, Conservator, Historic Architect, or other professional who meets the standards outlined in the Secretary of the Interior's Standards – Professional Qualifications Standards pursuant to 36 CFR 61. Such person is referred to in this document as the *Architect*.
- F. Site-specific specifications, when appropriate, will be provided by the Architect.

1.02 SECTION INCLUDES

- A. Selecting the appropriate stucco
- B. Preparation of lime-based stucco
- C. Preparation of portland cement-based stucco

1.03 RELATED SECTIONS

- A. 04110.02 – Repair of Historic Stucco
- B. 04510.01 – Cleaning and Testing of Atmospheric Soiling, Graffiti, Stains, and Biogrowth (issuance pending)
- C. 07100.01 – Water Repellent Properties and Application (issuance pending)
- D. 09910.01 – Surface Preparation and Repainting of on Masonry (issuance pending)

1.04 REFERENCES

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PREPARATION OF CEMENT STUCCO  
SECTION 04110-2

- A. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings* available at the National Park Service (NPS) website at <[http://www.nps.gov/history/hps/tps/standards\\_guidelines.htm](http://www.nps.gov/history/hps/tps/standards_guidelines.htm)>
- B. *Preservation Brief No. 22: The Preservation and Repair of Historic Stucco* available online at NPS website at <<http://www.nps.gov/history/hps/tps/briefs/brief22.htm>>.
- C. Conway, Brian D. *Illinois Preservation Series Number 2: Stucco*. Springfield, Illinois: Illinois Department of Conservation, Division of Historic Sites, 1980.
- D. *Portland Cement Plaster (Stucco) Manual*. Skokie, Illinois: Portland Cement Association, 1980.
- E. *Vieux Carre Masonry Maintenance Guidelines*. Revised from the initial report prepared by Mary L. Oehrlein in 1977. New Orleans, Louisiana: Vieux Carre Commission, 1980.
- F. ASTM C 207 Standard Specification for Hydrated Lime for Masonry Purposes.
- G. ASTM C 144 Standard Specification for Aggregate for Masonry Mortar.
- H. ASTM C 150 Standard Specification for Portland Cement.
- I. ASTM C 1328 Standard Specification for Plastic (Stucco) Cement.
- J. ASTM C 979 Specification for Pigments for Integrally Pigmented Concrete.
- K. ASTM C 926 Standard Specification for Application of Portland Cement-Based Plaster
- L. ASTM C 1489 Standard Specification for Lime Putty for Structural Purposes

1.05 SUBMITTALS

- A. The Contractor shall submit a detailed schedule of the areas of stucco to be patched and new areas to be installed, including an assessment of the problem areas, a historic stucco analysis, and detailed procedures for preparation and stucco application, to the Architect for approval:
  - 1. Submit data indicating proportion or property specifications used for stucco.
  - 2. Submit test reports for mortar materials and report proportions resulting from laboratory testing used to select stucco mix.
- B. **Product Literature.** The Contractor shall submit manufacturer's product literature to Architect for all proprietary products specified for stucco preparation. Product literature shall include specification data, Material Safety Data Sheets, and instructions for storage, handling, and use.
- C. **Historic stucco analysis.** The Contractor shall submit the laboratory report from completed stucco analysis. Stucco analysis shall be completed prior to beginning test panel

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characterize the insoluble aggregate, determine binder-aggregate ratio, prepare a mix design for replacement stucco, and identify appropriate sources for sand aggregate.

- D. Samples. No stucco restoration work shall proceed until all samples are approved. The Contractor shall submit samples of the following stucco repair and replacement materials for approval of color and texture match:

Cured stucco samples: Prepare portable samples approximately 6x6 inches. Once a matching stucco color is approved by the Architect, placement of on-site mock-ups may begin.

#### 1.06 QUALITY ASSURANCE

- A. Work Experience: The Contractor and masons to perform the work in this section shall have a demonstrated experience with historic stucco and mortars, ideally a minimum of ten (10) years. He/she shall demonstrate a working knowledge of the Secretary of the Interior's Standards for Guidelines for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.
- B. Warranty: The Contractor shall provide a warranty in writing against defects in material and installation for a period of five (5) years.
- C. The Contractor shall not change sources or manufacturers of mortar materials during the course of the work.

#### 1.07 MOCK-UPS

- A. After the Architect approves a stucco color from the cured stucco samples, the Contractor shall prepare two mock-up installations of each type of stucco to be installed at locations selected by the Architect. If cleaning tests are also to take place, test panels should be in the same areas. Test panels should not be undertaken in areas that are highly visible. Each test panel shall be executed in the same manner as the final installation. Test panels shall have a minimum area of 3x3 feet. Test panels will be inspected for color, texture, and installation technique and must be approved by the Architect.
- B. If the initial mock-ups are unacceptable to the Architect, the Contractor shall prepare up to three additional mock-ups of each stucco without further compensation. Approved test area(s) shall become part of the work and shall serve as the quality standard for all subsequent work.

#### 1.08 DELIVERY, STORAGE, AND HANDLING

- A. The Contractor shall be deliver all products to the site in original packaging, unopened, and undamaged, with manufacture's name and product identification visible thereon, and manufacturer's instructions and Material Safety Data Sheets.
- B. The Contractor shall store all products in a dry location and protect them from dampness and freezing following manufacturer's instructions.
- C. The Contractor shall stockpile and handle all aggregates in a manner that prevents contamination from foreign materials, \_\_\_\_\_

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1.09 PROJECT / SITE CONDITIONS

- A. Normal conditions for the work of this Section shall be defined as when the air and surface temperatures are 40 degrees F and rising or less than 90 degrees F and falling. When temperatures are predicted to rise above or fall below this temperature range, the Contractor shall implement hot or cold weather procedures as defined by the Masonry Institute of America.
- B. Work shall not commence when rain, snow or below-freezing temperatures are expected within the next 24 hours. All surfaces shall be free of standing water, frost, and ice.
- C. The Contractor is responsible for protecting existing adjacent materials and surfaces, and substrate during the execution of the work and shall provide all necessary protection and follow all necessary work procedures to avoid damage to existing material assemblies not a part of the work in the Section.
- D. The Contractor shall provide visible barriers and / or warning tape around the perimeter of the work area for visitor protection and shall also provide that nearby vehicles and adjacent structures and foliage shall be protected from damage during the course of the work.
- E. The Contractor shall coordinate stucco work with the other trades involved in exterior and interior rehabilitation work, including but not limited to masonry cleaning, sealing, and painting.

**PART 2 - PRODUCTS**

2.01 EVALUATION OF EXISTING STUCCO

- A. Microscopical and chemical analysis of historic stucco.
- B. Visual inspection, conditions assessment, and documentation.

2.02 LIME STUCCO

The type of substrate must be identified (see Section 04400.01, Identifying Masonry Types and Failures). The chosen stucco composition must be compatible in color, texture, finish, and strength with the existing stucco and substrate.

- A. Lime Based Stucco
  - 1. Lime should conform to ASTM C 207, Type S, Hydrated Lime for Masonry Purposes: 1,800 psi.
  - 2. Lime putty should conform to ASTM C 1489.
  - 3. Sand should match the sand in the existing stucco as closely as possible in color, texture, and gradation, should be free from impurities, and should conform to ASTM C 144.
  - 4. Water should be clean and potable.

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5. As appropriate, hair or fiber (if used) could be goat, horse, or cattle hair, or pure manilla fiber of good quality, ½ to 2 inches in length, clean and free of dust, dirt, oil, grease, or other impurities.
6. Colorants (if required for exact color match) should be non-fading, mineral oxide masonry pigment or earth pigments.

B. Equipment: Trough, wheelbarrow, plastic buckets, hoe, hawk, trowel, burlap (clean, undyed, and unprinted).

2.03 PORTLAND CEMENT AND PORTLAND CEMENT-AMENDED STUCCO

The type of substrate must be identified (see Section 04400.01, Identifying Masonry Types and Failures). The chosen stucco composition must be compatible in color, texture, finish, and quality with the existing stucco and substrate.

A. Portland cement and Portland cement-amended stucco

1. Lime should conform to ASTM C 207, Type S, Hydrated Lime for Masonry Purposes.
2. Sand should match the existing stucco as closely as possible in color, texture and gradation; be free from impurities; and conform to ASTM C 144.
3. Cement should be gray and/or white, non-staining Portland cement and conform to ASTM C 150, Type II. Gray and white cements may be combined as required to achieve the required color.
4. Water should be clean and potable.
5. Hair or fiber (if used) should be goat or cattle hair, or pure manila fiber of good quality, ½ to 2 inches in length, clean and free of dust, dirt, oil, grease, or other impurities.
6. Pigment (if used) should be compatible with the stucco mix and conform to ASTM C 979.

B. Equipment: Trough, wheelbarrow, plastic buckets, hoe, hawk, trowel, burlap (clean, undyed, and unprinted).

2.04 LIME AND CEMENT STUCCO MIXES

A. General: Unless the historic stucco analysis recommends otherwise, comply with the requirements of ASTM C 926 for the proportioning of materials and the manner of mixing the plaster for each required application.

B. Lime-Based Stucco

1. Scratch and brown coats:  
1 part lime putty  
3 parts sand  
Approx. 6 pounds hair or fiber

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2. Finish coat:  
1 part lime putty  
3 parts sand

C. Lime-Portland Cement Stucco

1. Type N:

Scratch and brown coats:  
1 part hydrated lime  
1 parts Portland cement  
6 parts sand  
Approx. 6 pounds hair or fiber  
Water to form a workable mix

Finish coat:  
1 part hydrated lime  
1 parts Portland cement  
6 parts sand  
Water to form a workable mix

2. Type O:

Scratch and brown coats:  
2 part hydrated lime  
1 parts Portland cement  
9 parts sand  
Approx. 6 pounds hair or fiber  
Water to form a workable mix

Finish coat:  
2 part hydrated lime  
1 parts Portland cement  
9 parts sand  
Water to form a workable mix

3. Portland cement stucco:

1 part Portland cement  
2.5 parts sand  
Hydrated lime to not more than 15% of the cement volume  
Water to form a workable mix

2.05 PRE-MIXED STUCCO

With the Architect's approval, pre-mixed stucco may be used for patching and new stucco, provided it is compatible with the existing stucco and/or the masonry substrate. Provide manufacturer's full color range for selection or provide custom match. Follow manufacturer's recommended mixing and preparation procedures for factory-mixed products.

**PART 3 - EXECUTION**

3.01 GENERAL

- A. The extent of the stucco repair work and/or new areas to be stuccoed shall be approved by the Architect on site prior to beginning operations. The Contractor shall submit an annotated drawing or photographs showing the affected areas, along with a written description of the methods and materials to be used.
- B. The Contractor shall protect adjacent materials, openings, and substrate.

3.02 LIME BASED STUCCO

- A. Mix lime stucco thoroughly prior to use.
  - 1. Vertical shaft mixers should be used rather than drum-type mixers.
- B. Add sand and lime alternately to the mixer while it is running. Unless sand is extremely dry, water is most likely not needed. If the mixture is crumbly after 15 minutes of mixing, a small amount of water (about 8 fluid ounces at a time for a 15-gallon mixer load) may be added.
- C. Mix for a minimum of 20 minutes. Avoid locating the mixer in direct sunlight to minimize heating of the mortar. When thoroughly mixed, lime mortar should be fairly dry to the appearance, but spreadable. Wash all mixing equipment thoroughly when mixing is completed.
- D. Fiber may be added into the mortar in the last few minutes of mixing. Once fibers are well distributed, discontinue mixing.
- E. Mixed lime stucco may be stored for up to one month if it is tightly covered and mixed again before use. Un-fibered stucco can be mixed in advance and stored indefinitely in airtight containers with a 1" water barrier on top.

3.03 PORTLAND CEMENT AND PORTLAND CEMENT-AMENDED STUCCO

- A. Mix Portland cement and Portland cement-amended stuccoes in accordance with ASTM C 926 and the PCA Portland Cement Plaster Manual.
- B. Measure dry ingredients by volume or equivalent weight. Do not measure by shovel. Combine in a clean, mechanical batch mixer.
- C. For Portland cement stucco, mix dry ingredients thoroughly prior to adding water.
- D. For Portland cement-amended stuccoes, materials shall be prehydrated to reduce shrinkage. Lime and sand shall be thoroughly mixed, adding only enough water to produce a damp, workable mix that will retain its form when pressed into a ball. Stucco shall stand in this condition for 1 hour. Add Portland cement and remainder of water and mix to provide a workable consistency. Stucco should be easily thrown from trowel and adhere to the surface for easy spreading.

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- E. Once final mixing water is added, do NOT over-mix (machine mix for 3-5 minutes).
- F. Portland cement and Portland cement-amended stucco should be used in 1 ½ to 2 hours. Do not retemper or use partially hardened material.
- G. Wash all equipment promptly.

3.04 FINAL REPORT

The Contractor and Architect shall provide a final report of complete work including all approved submittals and photographs of the repaired areas taken before, during, and after the work.

END OF SECTION

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**PART 1 - GENERAL**

1.01 DESCRIPTION

- A. This specification provides procedures appropriate for repairing cracks and patching historic stucco.
- B. This specification has been developed for use on historic properties (defined as any district, site, building, structure, or object that is listed in or eligible for listing in the National Register of Historic Places) and provides an overview of accepted practices.
- C. All work described herein and related work must conform to the Secretary of the Interior's Standards for the Treatment of Historic Properties.
- D. The Contractor shall provide all labor, materials, equipment, and operations required to complete the rehabilitation work indicated herein.
- E. All work described herein and related work must have the approval of a Cultural Resources Manager, Conservator, Historic Architect, or other professional who meets the standards outlined in the Secretary of the Interior's Standards – Professional Qualifications Standards pursuant to 36 CFR 61. Such person is referred to in this document as the *Architect*.
- F. Site-specific specifications, when appropriate, will be provided by the Architect.

1.01 SECTION INCLUDES

- A. Selecting the appropriate stucco (see Section 04110.01)
- B. Stucco patching

1.02 RELATED SECTIONS

- A. 04110.01 – Preparation of Lime- or Portland-Based Stucco
- B. 04400.01 – Identifying Masonry Types and Failures
- C. 04510.01 – Cleaning and Testing of Atmospheric Soiling, Graffiti, Stains, and Biogrowth (pending issuance)
- D. 07100.01 – Water Repellent Properties and Application (pending issuance)
- E. 09910.01 – Surface Preparation and Repainting on Masonry (pending issuance)

1.03 REFERENCES

REPAIR OF HISTORIC STUCCO  
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- A. *The Secretary of the Interior's Standards for the Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring & Reconstructing Historic Buildings* available at the National Park Service (NPS) website at <[http://www.nps.gov/history/hps/tps/standards\\_guidelines.htm](http://www.nps.gov/history/hps/tps/standards_guidelines.htm)>.
- B. *Preservation Brief No. 22: The Preservation and Repair of Historic Stucco* available online at NPS website at <<http://www.nps.gov/history/hps/tps/briefs/brief22.htm>>.
- C. Conway, Brian D. *Illinois Preservation Series Number 2: Stucco*. Springfield, Illinois: Illinois Department of Conservation, Division of Historic Sites, 1980.
- D. *Portland Cement Plaster (Stucco) Manual*. Skokie, Illinois: Portland Cement Association, 1980.
- E. *Vieux Carre Masonry Maintenance Guidelines*. Revised from the initial report prepared by Mary L. Oehrlein in 1977. New Orleans, Louisiana: Vieux Carre Commission, 1980.
- F. ASTM C 207 Standard Specification for Hydrated Lime for Masonry Purposes.
- G. ASTM C 144 Standard Specification for Aggregate for Masonry Mortar.
- H. ASTM C 150 Standard Specification for Portland Cement.
- I. ASTM C 1328 Standard Specification for Plastic (Stucco) Cement.
- J. ASTM C 979 Specification for Pigments for Integrally Pigmented Concrete.
- K. ASTM A653/A653M Standard Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process
- L. ASTM A123/A123M Standard Specification for Zinc (Hot-Dip Galvanized) Coatings on Iron and Steel Products
- M. ASTM C926 Standard Specification for Application of Portland Cement-Based Plaster
- N. FS QQ-L-101: Federal Specification: Lath, Metal, and Other Metal Plaster Bases

1.04 SUBMITTALS

- A. The Contractor shall submit a detailed schedule of the areas to be stuccoed, including an assessment of the problem areas, a historic stucco analysis, and detailed procedures for stucco repairs, to the Architect for approval.
- B. **Product Literature:** The Contractor shall submit manufacturer's product literature to the Architect for all proprietary products specified for stucco patching, grouting and replacement. Product literature shall include specification data, Material Safety Data Sheets, and instructions for storage, handling, and use.
- C. **Samples:** No stucco restoration work shall proceed until all samples are approved by the Architect. The Contractor shall submit samples of the following stucco repair and replacement materials for the Architect's approval of color and texture match:

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REPAIR OF HISTORIC STUCCO  
SECTION 04111-3

Cured stucco samples: Prepare portable samples approximately 6x6 inches. Once a matching stucco color has been approved by the Architect, placement of on-site mock-ups may begin.

1.05 QUALITY ASSURANCE

- A. Work Experience: The Contractor and masons to perform the work in this section shall have demonstrated experience with preparation and installation of historic stucco, ideally a minimum of ten (10) years. He/she shall demonstrate a working knowledge of the Secretary of the Interior's Standards for Guidelines for Treatment of Historic Properties with Guidelines for Preserving, Rehabilitating, Restoring, and Reconstructing Historic Buildings.
- B. The Contractor shall not change sources or manufacturers of stucco materials during the course of the work.
- C. Warranty: Contractor shall provide a warranty in writing against defects in material and installation for a period of five (5) years.

1.06 MOCK-UPS

- A. The Contractor shall prepare mock-up installations of each type of stucco to be installed at locations selected by the Architect. Test panels shall have a minimum area of 3x3 feet and shall include all types of work required in the overall project, such as patching, and crack repair. Any special tooling and texturing should be included. If cleaning tests are also to take place, test panels should be prepared on the same area. Test panels should not be undertaken in areas that are highly visible. Test panels will be inspected by the Architect for color, texture, and installation technique.
- B. After the test panels have cured for a period of two to three weeks (or otherwise specified by the Architect), the test panels will be inspected for color, texture, and installation technique.
- C. Each mason proposed for work on the project shall prepare a mock-up panel. Masons whose mock-ups are not approved shall not be permitted to work on stucco repair and replacement.
- D. Where stucco is not acceptable to the Architect, the Contractor shall prepare up to three additional mock-ups of each stucco without further compensation. Approved test area(s) shall become part of the work and shall serve as the quality standard for all subsequent work.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. The Contractor shall deliver all products to the site in original packaging, unopened, and undamaged with manufacturer's name and product identification visible thereon, and manufacturer's instructions and Material Safety Data Sheets.
- B. The Contractor shall store products in a dry location and protect them from dampness and freezing following manufactures instructions.

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2.01 PATCHING HISTORIC STUCCO

The type of substrate must be identified (see section on Identifying Masonry Types and Failures 04400.01). The chosen stucco composition must be compatible with the substrate.

A. Patching Material:

1. Stucco: See Section 04110.01, Preparation of Lime or Portland-Based Stucco.
2. Bonding agent: Where applying stucco coats over smooth substrates such as concrete or concrete unit masonry or when applying new finish coats over existing base coats, the use of a bonding agent may be appropriate. The type of bonding agent required (if any) shall be determined by the Architect and will depend on the composition of the stucco and the substrate to which it will be applied.
  - a. Proprietary bonding agents shall conform to the requirements of ASTM C932 Standard Specification for Surface-Applied Bonding Compounds for Exterior Plastering.

B. Equipment:

Mixing: Trough, wheelbarrow, plastic buckets, hoe, hawk, trowel, burlap (clean, undyed, and unprinted).

1. Stucco Application: Plastic buckets, hoe, hawk, trowel, burlap (clean, undyed, and unprinted)
2. Stucco Removal: Chisel, mason's or chipping hammer, mallet, mortar board

2.02 METAL SUPPORT, FURRING, LATHING, AND ACCESSORY MATERIALS FOR STUCCO

A. Metals and Finishes:

1. Exterior Components: As appropriate for the historic resource, hot-dip galvanized finish; ASTM A653 for 18-gauge and lighter formed metal products; ASTM A 123 galvanized after fabrication for 16-gauge and heavier products.
2. Exterior Exposed Plastering Accessories: Provide zinc alloy accessories.

B. Wire Ties: Galvanized soft steel wire, gauge as required.

C. Metal Lathing Materials:

1. Product Standards: Comply with FS QQ-L-101 C.
2. Exterior Metal Lath: Self-furring, 3.4 lbs. per square yard, galvanized steel with black asphaltum coating.

D. Metal Stuccoing Accessories:

1. Square Edge Casting Beads: Manufacturer's standard, size for thickness indicated, with expanded or short flange to suit application.



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SECTION 04111-7

- B. Remove all loose, deteriorated, and severely cracked stucco to the masonry substrate or lath. Avoid oversounding to prevent additional damage to adjacent keys.
- C. Stucco on Masonry Substrate:
  - 1. Stucco is applied directly to masonry substrates such as brick, stone, concrete, or hollow tile without lath.
  - 2. If necessary, rake out brick or stone mortar joints to a depth of  $\frac{5}{8}$  inch.
- D. Masonry on Wood Substrate:
  - 1. Wood Substrate: Determine type of lath—horizontal wood slats or wire mesh, if appropriate.
  - 2. Lath should be in good condition, free of rot and / or rust.
  - 3. Replace areas of metal lath and underlay as approved by the Architect. New wire lath should be nailed over existing wood lath, following review by the Architect.
- E. Surface should be free of debris, dust, dirt, grease, oil, paint, and vegetation. Clean with a bristle brush.
- F. Area should be cut on the diagonal and squared off with a butt joint to provide a neat patch. If necessary, and as reviewed by the Architect, it may be preferred to stucco the area of an entire feature.
- G. New patch must not overlap existing stucco.
- H. Dampen surface before applying stucco.
- I. Apply the scratch coat to the masonry substrate or lath. Number and thickness of the repair coats should match the historic stucco. The scratch coat is generally  $\frac{1}{4}$  to  $\frac{3}{8}$  inch thick, and must be scratched or crosshatched with a comb to provide a key for the second coat. Allow scratch coat to dry 24 to 72 hours.
- J. The leveling or second coat is often applied in the same thickness as the initial coat. The total thickness of the first two coats is generally  $\frac{3}{8}$  inch. Roughen the surface to provide a key for the finish coat.
- K. The final or finish coat is applied when the leveling coat is initially set. Work the finish coat to match the texture of the historic stucco.

3.06 FINAL REPORT

- A. For stucco repair and replacement where no paint or other surface finish is applied, the contractor shall revisit the site with the Architect after the new stucco has cured at least 30 days to inspect the work to see if the desired effect has been achieved.

Façade Repairs at  
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REPAIR OF HISTORIC STUCCO  
SECTION 04111-8

- B. The Contractor and Architect shall provide a final report of complete work including all approved submittals and photographs of the repaired areas taken before, during, and after the work.

END OF SECTION

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PART 1 GENERAL

1.01 WORK INCLUDED

- A. Work Included: The Work of this Section shall include but not be limited to the following:
1. Brick and concrete masonry cavity walls.
  2. Freestanding masonry walls.
  3. Masonry reinforcements and accessories.

1.02 RELATED WORK

- A. Section 04900 – Masonry Restoration and Cleaning.
- B. Section 07921 - Joint Sealers.

1.03 SYSTEM PERFORMANCE REQUIREMENTS

- A. Provide unit masonry that develops the following installed compressive strengths ( $f_m$ ):
1. For concrete unit masonry: As follows:
    - a.  $f_m = 1500$  psi, min. unless otherwise indicated.
    2. For clay unit masonry: and as follows.
      - a.  $F'm = 1500$  psi, min., unless otherwise indicated.
- B. General: All unit masonry walls shall conform to requirements of the current B.O.C.A Code for the seismic hazard group required and all applicable modifications as required by the Start of Connecticut building code and amendments as required.

1.03 QUALITY ASSURANCE

- A. Installer's Qualifications: Engage an experienced Installer who has completed 3 projects similar in material, design, and who has 5 years experience with the installation of unit masonry of the type specified.
- B. Fire Performance Characteristics: Where indicated, provide materials and construction which are identical to those of assemblies whose fire endurance has been determined by testing in compliance with ASTM E 119 by a recognized

testing and inspecting organization.

- C. Source for Masonry Materials: Obtain exposed masonry materials from one manufacturer for each different product required.
  
- D. Pre-Installation Conference: Arrange to meet with Architect, Owner and representatives of other affected trade contractors (Hollow Metal Work, HVAC, Plumbing and Electrical), at a time sufficiently scheduled before the commencement of building layouts and masonry work (including mockup) to permit coordination of masonry work with other trades.
  - 1. Review special considerations and techniques required for installation of concrete masonry unit construction with exposed surface finish.
  - 2. Establish coordination and preparations necessary for the accurate location of slab stub outs and other building elements and services that are to be built into exposed masonry work.
  - 3. Review and finalize layout and construction schedules. Reference "special considerations" for masonry installation specified herein.
  
- E. Brick Masonry Construction: Comply with the Brick Institute of America (BIA) for brick construction.
  
- F. Concrete Masonry Construction: Comply with the National Concrete Masonry Association (NCMA) for unit masonry construction.

#### 1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product data for each type of masonry unit, accessory, and other manufactured products, including certifications that each type complies with specified requirements.
  
- B. Samples: Submit samples of each exposed masonry material to show the types, sizes and full range of molded brick and mortar color and texture to be expected in the work as follows.
  
- C. Verification Samples: Submit samples for verification purposes of the following:
  - 1. Full-size units for each different exposed masonry unit required showing full range of exposed color, texture, and dimensions to be expected in completed construction.

- a. Include size variation data verifying that actual range of sizes for brick falls within ASTM C 216 dimension tolerances for brick where modular dimensioning is indicated.
  2. Colored masonry mortar samples for each color required showing the full range of colors expected in the finished construction. Label samples to indicate type and amount of colorant used.
  3. Trim samples not less than 12 inches in length showing full range of colors and textures expected in finished construction.
- D. Shop Drawings: Submit shop drawings for masonry and all accessories. Show sizes and shapes of units, supporting, anchoring restraint and reinforcing.
1. Submit shop drawings for reinforcing detailing fabrication, bending, and placement of unit masonry reinforcing bars. Comply with ACI 315 "Details and Detailing of Concrete Reinforcing" showing bar schedules, diagrams of bent bars, anchors, stirrups and arrangement of masonry reinforcement.
- E. Certificates: Submit material certificates for the following signed by manufacturer and Contractor certifying that each material complies with requirements.
1. Each different cement product required for mortar and grout including name of manufacturer, brand, type, and weight slips at time of delivery.
  2. Each material and grade indicated for reinforcing bars.
  3. Each type and size of joint reinforcement.
  4. Each type and size of anchors, ties, and metal accessories.
- F. Test Reports: Submit material test reports from a qualified independent testing laboratory employed and paid by Contractor indicating and interpreting test results relative to compliance of the following proposed masonry materials with requirements indicated:
1. Mortar complying with property requirements of ASTM C 270.
  2. Grout mixes. Include description of type and proportions of grout ingredients.
  3. Masonry units.
- G. Procedures: Submit hot and cold-weather construction procedures evidencing

compliance with requirements specified in referenced unit masonry standard.

- H. Qualification Data: Submit qualification data for firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include list of completed projects with project names, addresses, telephone numbers, names of Architects and Owners, and other information specified.

1.05 DELIVERY, STORAGE, AND HANDLING

- A. Deliver masonry materials to project in undamaged condition.
- B. Store and handle masonry units to prevent deterioration or damage due to moisture, temperature changes, contaminants, corrosion or other causes.
- C. Store cementitious materials off the ground, under cover and dry.
- D. Store aggregates where grading can be maintained.
- E. Store masonry accessories to prevent deterioration and avoid dirt.

1.06 PROJECT CONDITIONS

- A. Protection of Work: During erection, cover top of walls with waterproof sheeting at end of each day's work. Cover partially completed structures when work is not in progress.
  - 1. Extend cover a minimum of 24 inches down both sides and hold cover securely in place.
- B. Staining: Prevent grout or mortar or soil from staining exposed masonry. Promptly remove grout or mortar on masonry.
  - 1. Protect base of walls from rain-splashed mud and mortar by means of coverings spread on ground and over wall surface.
  - 2. Protect sills, ledges and projections from dropping of mortar.
- C. Cold-Weather Requirements: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen sub-grade or setting beds. Remove and replace unit masonry damaged by frost or freezing conditions. Comply with the following requirements:
  - 1. Cold-Weather Construction: When the ambient temperature is within the limits indicated, use the following procedures:

- a. 40 to 32 deg F (4 to 0 deg C): Heat mixing water or sand to produce mortar temperatures between 40 and 120 deg F (4 and 49 deg C).
  2. Cold-Weather Protection: When the mean daily temperature is within the limits indicated, provide the following protection:
    - a. 40 to 25 deg F (4 to -4 deg C): Cover masonry with a weather-resistant membrane for 48 hours after construction.
    - b. 25 to 20 deg F (-4 to -7 deg C): Cover masonry with insulating blankets or provide enclosure and heat for 48 hours after construction to prevent freezing. Install wind breaks when wind velocity exceeds 15 mi./h (25 km/h).
    - c. 20 deg F (-7 deg C) and Below: Provide enclosure and heat to maintain temperatures above 32 deg F (0 deg C) within the enclosure for 48 hours after construction.
  3. Cold-Weather Cleaning: Use liquid cleaning methods only when air temperature is 40 deg F (4 deg C) and above and will remain so until masonry has dried out, but not less than 7 days after completion of cleaning.
- E. Hot-Weather Requirements: Protect unit masonry work when temperature and humidity conditions produce excessive evaporation of water from mortar and grout. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 100 deg F (38 deg C) and above.

## PART 2 PRODUCTS

### 2.01 BRICK OF CLAY OR SHALE

- A. General: Comply with referenced standards and other requirements indicated below applicable to each form of brick required.
1. Provide special molded shapes where required and which cannot be produced from standard brick sizes by sawing. Submit samples.
  2. For sills, caps and other such applications, provide uncored or unfrogged units with all exposed surfaces finished.
- B. Molded Face Brick: ASTM C 216, Grade SW, and as follows:

1. Type: FBA of types scheduled.
  - a. 8000 psi, minimum.
2. Size: Provide bricks manufactured to the following actual dimensions within the tolerances specified in ASTM C 216, unless otherwise noted:
  - a. Standard Modular: 3-5/8" thick by 2-1/4" high by 8" long.
  - b. Colors and Finishes: Match existing dark brick.
3. Manufacturer and Product: Subject to compliance with requirements, provide molded brick of types, colors, finishes and profiles as selected by the Architect, and as manufactured by one of the following:
  - a. Glen-Gery Brick 56-DD molded blend

2.03 MORTAR AND GROUT MATERIALS

- A. Portland Cement: ASTM C 150, Type I, except Type III may be used for cold weather construction. Provide natural color or white cement as required to produce required mortar color.
- B. Hydrated Lime: ASTM C 207, Type S.
- C. Aggregate for Mortar: ASTM C 144.
- D. Aggregate for Grout: ASTM C 404.
- E. Colored Mortar Pigments: Natural and synthetic iron oxides and chromium oxides, compounded for use in mortar mixes. Subject to compliance with requirements, provide one of the following:
  1. "SGS Mortar Colors"; Solomon Grind-Chem Service, Inc.
  2. "True Tone Mortar Colors"; Davis Colors, A Subsidiary of Rockwood Industries, Inc.
- F. Colors: As selected by Architect.
- G. Water: Clean and potable.

2.04 JOINT REINFORCEMENT, TIES AND ANCHORS

- A. Materials: Comply with following requirements for basic materials and with requirements for each joint reinforcement, tie and anchor.
1. Zinc-Coated (galvanized) Steel Wire: ASTM A 82 for uncoated wire and with ASTM A 641 for zinc coating of Class 3 (0.80 oz. per sq. ft. of wire surface), for masonry not exposed to exterior or earth.
  2. Hot-Dip Galvanized Steel Wire: ASTM A 82 for uncoated wire and with ASTM A 153, Class B-2 (1.5 oz. per sq. ft. of wire surface), for exterior masonry.
- B. Joint Reinforcement: Provide welded-wire units prefabricated with deformed continuous side rods and plain cross rods into straight lengths of not less than 10', with prefabricated corner and tee units, and complying with requirements indicated below:
1. Width: As required to position side rods for full embedment in mortar to provide mortar coverage of not less than 5/8" on exterior joint faces and 1/2" elsewhere.
  2. Wire Size for Rods: 0.1483" diameter.
  3. For single-wythe masonry provide ladder type with cross rods 16" o.c. and with single pair of side rods.
  4. For cavity wall masonry provide three parallel rod type with cross rods 16" o.c. and with two side rods for each face shell of concrete masonry and one rod for each brick wythe. Provide "Adjustable Assemblies Continuous Wall Ties" with double hook and eye, as manufactured by National Wire Products Co. or approved equal.
  5. For hollow concrete masonry, each rod shall be embedded within the thickness of each face shell.
  6. For hollow concrete masonry, each rod shall be embedded within the thickness of each face shell.
- C. Flexible Anchors: Provide flexible anchors for connecting masonry to structure, to permit vertical or horizontal movement between wall and framework, but resist forces perpendicular to plane of wall.
1. Anchors to Concrete Walls and Columns Parallel to Masonry Coursing

- a. Dovetail brick tie consisting of a dovetail section of 0.1046" (12 gauge) thick sheet metal and a triangular shaped wire tie sized to extend within 1" of center of brick.
  - b. Wire Size: 0.1875" diameter.
2. Anchors to Concrete and CMU: "POS-I-TIE" Adjustable Veneer Anchor System, as manufactured by National Wire Products Co.
  3. Anchors to Concrete Walls Perpendicular to Masonry Coursing: Corrugated metal tie made of galvanized steel sheet of size recommended by manufacturer for each kind of installation, but not less than 16 gauge and not less than 7/8" wide.
- D. Anchor Bolts: Provide steel bolts with hex nuts and flat washers complying with ASTM A 307, Grade A, hot-dip galvanized to comply with ASTM C 153, Class C, in sizes and configurations indicated.
- E. Masonry Strap Anchor: Provide straps of form and length required, fabricated from metal strips of 1 1/2" wide by 1/4" thick.
- F. Unit Type Masonry Inserts in Concrete: Furnish cast iron or galvanized malleable iron inserts of type and size indicated.
1. Wedge inserts for shelf angle 2'-6" o.c.
  2. Provide dovetail inserts for concrete masonry units top anchor.
- H. Anchor Bolts: Provide steel bolts with hex nuts and flat washers complying with ASTM A 307, Grade A, hot-dip galvanized to comply with ASTM C 153, Class C, in sizes and configurations indicated.
- I. Manufacturers: Subject to compliance with requirements, provide masonry reinforcements, anchors, and ties as manufactured by one of the following:
1. National Wire Products Corp .
  2. Heckman Bldg. Prods., Inc.
  3. Masonry Reinforcing Corp.
  4. AA Wire Products
  5. Dur-O-Wal, Inc.
  6. Hohmann & Barnard

## 2.05 CONCEALED FLASHING MATERIALS

- A. Sheet Metal Flashing: Reference and fabricate to comply with requirements specified in Section 07600 "Flashing and Sheet Metal"

2.06 MISCELLANEOUS MASONRY ACCESSORIES

- A. Reinforcing Bars: Deformed steel, ASTM A 615, Grade 60.
- B. Non-Metallic Expansion Control, Vertical and Horizontal, Relieving Joint Strips: Premolded, flexible cellular neoprene filler strips complying with ASTM D 1056, Grade RE41E1, compressible up to 35%, Provide 3/8" of and inch by full depth of masonry unless otherwise indicated.
- C. Bond Breaker Strips: Asphalt saturated organic roofing felt complying with ASTM D 226, Type I (No. 15 asphalt felt).
- D. Weepholes: Provide the following:
  - 1. Rectangular plastic tubing, clear butyrate, 3/8" x 1-1/2" x 3-1/2" long. Fill tube with drainable open cell filler.
- E. Weep Baffle: Clean, prewashed rounded gravel.
- F. Spacers to form special joint sizes.
- G. Plastic Weep Hole/Vent at Courthouse: One-piece flexible extrusion manufactured from ultraviolet-resistant polypropylene copolymer, designed to weep moisture in masonry cavity to exterior, sized to fill head joints with outside face held back 1/8 inch from exterior face of masonry, in color selected from manufacturer's standard.
  - 1. Acceptable Product: Provide "Cell Vent" as manufactured by Dur-O-Wall Inc. or approved equal.

2.07 MASONRY CLEANERS

- A. Job-Mixed Detergent Solution: Solution of trisodium phosphate (1/2 cup dry measure) and laundry detergent (1/2 cup dry measure) dissolved in one gallon of water.

2.08 MORTAR AND GROUT MIXES

- A. General: Do not add admixtures; pigments, air entraining agents, accelerators, retarders, calcium chloride, water repellent agents, anti-freeze compounds or other admixtures, unless otherwise indicated.
- B. Mixing: Combine and thoroughly mix cementitious materials, water and aggregates in a mechanical batch mixer; comply with referenced ASTM standards for mixing time and water content.

- C. Mortar for Unit Masonry: Comply with ASTM C 270, Proportion Specification, for types of mortar required, listed below.
1. Limit cementitious materials in mortar to portland cement-lime.
  2. Use Type M mortar for masonry in contact with earth. Proportion one part cement, 1/4 part lime.
  3. Use Type S mortar. Proportion one part cement, over 1/4 to 1/2 part lime. For reinforced masonry and below-grade masonry, in contact with earth.
  4. Use Type N mortar for exterior and for interior masonry where another type is not indicated. Proportion one part cement, over 1/2 to 1-1/4 part lime.
- D. Pigmented Mortar: Provide pigments to produce color required. Do not exceed pigment-to- cement ratio of 1-to-10, by weight. Color as selected by Architect.
- E. Grout for Unit Masonry: Comply with ASTM C 476. Use grout of consistency which will completely fill grout spaces.
1. Use fine grout in grout spaces less than 2" wide.
  2. Use coarse grout in grout spaces 2" or wider, if any.

### PART 3 EXECUTION

#### 3.01 EXAMINATION

- A. Examine conditions, with Installer present, for compliance with requirements for installation tolerances and other specific conditions, and other conditions affecting performance of unit masonry.
- B. Examine rough-in and built-in construction to verify actual locations of piping connections prior to installation.
- C. Do not proceed until unsatisfactory conditions have been corrected.

#### 3.02 INSTALLATION, GENERAL

- A. Wetting: Wet brick made from clay or shale to ensure that each clay masonry unit is nearly saturated but surface dry when laid. Do not wet concrete masonry units.
- B. Cleaning Reinforcing: Before placing, remove loose rust, ice and other coatings

from reinforcing.

- C. Thickness: Build masonry construction to the full thickness shown. Build singlewythe walls to the actual thickness of the masonry units, using units of nominal thickness indicated.
- D. Build chases and recesses for the work of other trades. Provide not less than 8" of masonry between chase or recess and jamb of openings, and between adjacent chases and recesses.
- E. Leave openings for equipment to be installed before completion of masonry work. After installation of equipment, complete masonry work to match work immediately adjacent to the opening.
- F. Cut masonry units with motor-driven saws to provide clean, sharp edges. Cut units to provide continuous pattern and to fit adjoining work. Use full-size units without cutting where possible.
  - 1. Use dry cutting saws to cut concrete masonry units.

### 3.03 CONSTRUCTION TOLERANCES

- A. Variation from Plumb: For vertical lines and surfaces of columns, walls and arises do not exceed 1/4" in 10', or 3/8" in a story height not to exceed 20', nor 1/2" in 40' or more. For external corners, expansion joints, control joints and other conspicuous lines, do not exceed 1/4" in any story or 20' maximum, nor 1/2" in 40' or more. For vertical alignment of head joints do not exceed plus or minus 1/4" in 10', 1/2" maximum.
- B. Variation from Level: For bed joints and lines of exposed lintels, sills, parapets, horizontal grooves and other conspicuous lines, do not exceed 1/4" in any bay or 20' maximum, nor 1/2" in 40' or more. For top surface of bearing walls do not exceed 1/8" between adjacent floor elements in 10' or 1/16" within width of a single unit.
- C. Variation of Linear Building Line: For position shown in plan and related portion of columns, walls and partitions, do not exceed 1/2" in any bay or 20' maximum, nor 3/4" in 40' or more.
- D. Variation in Cross-Sectional Dimensions: For columns and thickness of walls, from dimensions shown, do not exceed minus 1/4" nor plus 1/2".
- E. Variation in Mortar Joint Thickness: Do not exceed bed joint thickness indicated by more than plus or minus 1/8", with a maximum thickness limited to 1/2". Do not exceed head joint thickness indicated by more than plus or minus 1/8".

3.04 LAYING MASONRY WALLS

- A. General: Layout walls for location and bond pattern, with uniform joint widths and to accurately locate openings, movement-type joints, returns and offsets. Avoid using less-than-half size units.
1. Lay-up walls to comply with specified construction tolerances, with courses accurately spaced and coordinated with other work.
- B. Bond Pattern for Exposed Masonry: Lay exposed masonry in the following bond pattern; do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.
1. Running bond.
  2. Brick soldier course where indicated on drawings.
- C. Lay concealed masonry with all units in a wythe in running bond or bonded by lapping not less than 2 inches. Bond and interlock each course of each wythe at corners. Do not use units with less than nominal 4-inch horizontal face dimensions at corners or jambs.
- D. Stopping and Resuming Work: Rake back 1/2-unit length in each course; do not tooth. Clean exposed surfaces of masonry, and remove loose masonry units and mortar prior to laying fresh masonry.
- E. Built-In Work: Build in items specified under this and other sections. Fill in solidly with masonry around built-in items.
1. Fill space between hollow metal frames and masonry.
  2. Where built-in items are in hollow masonry, place metal lath in the joint below and rod mortar or grout into cores.
  3. Fill hollow masonry with grout 3 courses (24") under bearing plates, beams, lintels, posts and similar items.
  4. Solid concrete masonry units at head and sill of window.

3.05 MORTAR BEDDING AND JOINTING

- A. Lay solid brick size masonry units with completely filled bed and head joint; butter ends with sufficient mortar to fill head joints and shove into place. Do not slush head joints.

- B. Lay hollow concrete masonry units with full mortar coverage on horizontal and vertical face shells. Bed webs in mortar in starting course and in all courses to be reinforced and filled at all exterior wall filled with grout.
- C. Maintain joint widths shown, except for minor variations required to maintain bond alignment. If not shown, lay walls with 3/8" joints.
- D. Cut joints flush for masonry walls which are to be concealed or to be covered by other materials.
- E. Tool exposed joints 3/4" diameter smooth surface rod tooler compress into form concave, unless otherwise indicated.
- F. Remove masonry units that have been disturbed or need to be adjusted after laying; clean and reset in fresh mortar.

### 3.06 STRUCTURAL BONDING OF MASONRY

- A. Joint Reinforcement: Use continuous joint reinforcement in horizontal mortar joints for bond tie between wythes, not more than 16" o.c. and not more than 8" o.c. at Bulkhead.
- B. Corners: Provide masonry bond in each course at corners. Provide continuity at corners with prefabricated "L" reinforcing, in addition to masonry bonding.
- C. Intersecting and Abutting Walls: Except at expansion or control joints, provide prefabricated "T" joint reinforcement.
- D. Non-Bearing Interior Partitions: Build full height of story to underside of structure above, unless otherwise shown, with allowance for deflection of the structure and filler strip. Anchor top of partitions to the structure.
  - 1. Anchor Wedge non-bearing partitions against structure above, with bracing angles 5' O.C. on each side of partition, unless otherwise shown. Leave space filled with fire stopping filler after dead load deflection of structure above approaches final position.

### 3.08 HORIZONTAL JOINT REINFORCING

- A. General: Install continuous joint reinforcement with side rods embedded in mortar, with a minimum cover of 5/8" on exterior side of walls, 1/2" elsewhere. Lap reinforcement a minimum of 6".

- B. Cut or interrupt joint reinforcement at control and expansion joints.
- C. Reinforce walls with continuous horizontal joint reinforcing unless specifically noted to be omitted.
- D. Provide continuity at corners and wall intersections by use of prefabricated "L" and "T" sections. Cut and bend reinforcement as by manufacturer for continuity.
- E. Space continuous horizontal reinforcing as required by code but not less than 16" o.c. vertically. For parapets, space reinforcing 8" o.c. vertically.
- F. Reinforce masonry openings over 1'-0" wide with joint reinforcing in 2 joints immediately above lintel and below sill. Extend reinforcing 2 feet beyond jambs of the opening, except at control joints.

3.09 ANCHORING MASONRY WORK

- A. Provide a 1" space between masonry and structural members. Keep space free of mortar or other rigid materials.
- B. Anchor masonry to structural members with flexible metal ties embedded in masonry joints and attached to structure.
- C. Space masonry anchors not more than 16" o.c. vertically and 16" o.c. horizontally.

3.10 CONTROL AND EXPANSION JOINTS

- A. Provide expansion and control joints in masonry where shown but not less than a maximum spacing for control joint, 20'-0" exterior and 30'-0" interior unless otherwise shown.
- B. Build flanges of expansion units into masonry to exclude water.
- C. Build-in non-metallic joint fillers at all horizontal and vertical control joints.
- D. Build in horizontal pressure relieving joints where indicated, to permit installation of sealant and backer rod. Locate pressure relieving joints beneath shelf angles for masonry veneer.
- E. Build sealant and backer rod with compressible filler to form soft joint.

3.11 LINTELS

- A. Install steel lintels where indicated.
- B. Provide masonry lintels where openings wider than 1'-0" for bricks and 2'-0" for block units are shown without structural steel or other supports. Cure precast lintels before handling.
- C. Provide minimum bearing of 8" at each jamb.

3.12 FLASHING OF MASONRY WORK

- A. Provide thruwall flashings in masonry to divert water to the exterior. Remove unnecessary projections. Place flashing on a sloping bed of mortar and cover with mortar. Seal penetrations in flashing before covering.
  - 1. Provide fabric flashing over lintels and where otherwise indicated. Metal flashings all other areas.
- B. Apply flashings of 2" beyond face of exterior and trim after sealant is applied.
- C. Interlock end joints of deformed metal flashings by over-lapping deformations not less than 1-1/2" and seal lap with elastic sealant.
- D. Install flashing to comply with manufacturer's instructions.
- E. Provide weep holes as shown in head joints immediately above flashings. Space 24" o.c., unless otherwise indicated.
- F. Install reglets and nailers for flashing and other related work where shown to be built into masonry work.

3.13 PARGING

- A. Parge masonry at exterior face of interior wythe of concrete masonry units at Bulkhead with Type S or Type N mortar, in not less than 1/2" thickness.
- B. Trowel finish to a smooth, dense surface. Form a wash at top of parging and a cove at bottom. Where parging is applied in 2 coats, roughen first coat when partially set, let harden for 24 hours and moisten prior to application of second coat.
- C. Damp cure parging for at least 24 hours and protect until cured.

3.14 REPAIR, POINTING AND CLEANING

- A. General: Remove and replace masonry units which are loose, chipped, broken, stained or otherwise damaged, or if units do not match adjoining units. Provide new units to match adjoining units and install in fresh mortar, pointed to eliminate evidence of replacement.
- B. Pointing: During the tooling of joints, enlarge any voids or holes, except weep holes, and completely fill with mortar. Point-up all joints at corners, openings and adjacent work to provide a neat, uniform appearance, prepared for application of sealants.
- C. Final Cleaning: After mortar is thoroughly set and cured, clean masonry as follows:
1. Remove large mortar particles by hand with wooden paddles and non-metallic scrape hoes or chisels.
  2. Test cleaning methods on sample wall panel; leave 1/2 panel uncleaned for comparison purposes. Obtain Architect's approval of sample cleaning before proceeding with cleaning of masonry.
    3. Protect adjacent surfaces from cleaner by covering them with masking agent, polyethylene film or waterproof masking tape.
    4. Saturate wall surfaces with water before applying cleaners; remove cleaners promptly by rinsing thoroughly with clear water.
    5. Use bucket and brush hand cleaning method described in BIA "Technical Note No. 20 Revised" to clean brick masonry, except use detergent to comply with directions of manufacturer.
    6. Clean concrete unit masonry to comply with masonry manufacturer's directions and applicable NCMA "Tek" bulletins.
- D. Protection: Provide final protection and maintain conditions, which ensures unit masonry work being without damage and deterioration at time of substantial completion.

END OF SECTION

## PART 1 - GENERAL

### 1.01 SUMMARY

- A. Provide masonry restoration, cleaning and sealing:
  - 1. Re-pointing mortar joints.
  - 2. Repair of masonry damaged by re-pointing work.
  - 3. Washing and cleaning exposed masonry surfaces.
  - 4. Removal of damaged bricks and cast stone pieces and replacement with units to match existing.
- B. Related Sections include the following:
  - 1. Section 04200 – Unit Masonry.
  - 2. Section 07900 – Joint Sealers.
- C. Schedule: Refer to Drawings for extent of work.
  - 1. Replace deteriorated brick and stone masonry units to match existing.
  - 2. Re-point mortar joints where deteriorated or missing with new work to match.
  - 3. Clean all exterior brick masonry, cast stone, and fieldstone areas.

### 1.02 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Mortar Mix: Submit for approval mortar mix proposed for use.

### 1.03 QUALITY ASSURANCE

- A. Perform test cleaning to demonstrate/select appropriate cleaning materials, mixes, and methods.
- B. Comply with governing codes and regulations. Provide products of acceptable manufacturers which have been in satisfactory use in similar service for three years. Use experienced installers. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- C. Samples: Provide material samples as required to demonstrate quality of workmanship for each type of re-pointing, cleaning and sealing.

### 1.04 PROJECT CONDITIONS

- A. Re-point mortar joints and repair masonry only when air temperature is between and 40 and 80 deg and is predicted to remain so for at least 7 days after completion of work.
- B. Cold-Weather Requirements: Comply with the following procedures for masonry repair and mortar-joint pointing:

1. When air temperature is below 40 deg F, heat mortar ingredients, masonry repair materials, and existing masonry walls to produce temperatures between 40 and 120 deg F.
  2. When mean daily air temperature is below 40 deg F, provide enclosure and heat to maintain temperatures above 32 deg F within the enclosure for 7 days after repair and pointing.
- C. Hot-Weather Requirements: Protect masonry repair and mortar-joint pointing when temperature and humidity conditions produce excessive evaporation of water from mortar and repair materials. Provide artificial shade and wind breaks and use cooled materials as required. Do not apply mortar to substrates with temperatures of 80 deg F and above.
- D. Patch masonry only when air and surface temperatures are between and 55 and 80 deg F and are predicted to remain above 55 deg F for at least 7 days after completion of work. On days when air temperature is predicted to go above 80 deg F, schedule patching work to coincide with time that surface being patched will be in shade or during cooler morning hours.
- E. Clean masonry surfaces only when air temperature is 40 deg F and above and is predicted to remain so for at least 7 days after completion of cleaning.
- F. Protect persons and property from injury and damage from cleaning operations. Do no work when winds prevent control of sand, cleaners or rinse water. Dispose of run-off in a legal manner.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. Re-pointing Mortar: Match existing with strength suitable for project conditions. Match existing color, texture, and appearance.
1. Portland Cement: ASTM C 150, Type I.
  2. Hydrated Lime: ASTM C 207, Type S.
  3. Aggregate for Mortar: ASTM C 144.
  4. Colored Mortar Aggregate: Colored sand.
  5. Colored Mortar Pigment: Iron oxides and chromium oxides.
  6. Aggregate for Grout: ASTM C 404.
- B. Preparing Lime Putty: Slake quicklime and prepare lime putty according to appendix to ASTM C 5 and manufacturer's written instructions.
- C. Measurement and Mixing: Measure cementitious materials and sand in a dry condition by volume or equivalent weight. Do not measure by shovel; use known measure. Mix materials in a clean, mechanical batch mixer.
1. Mixing Pointing Mortar: Thoroughly mix cementitious materials and sand together before adding any water. Then mix again adding only enough water to

produce a damp, unworkable mix that will retain its form when pressed into a ball. Maintain mortar in this dampened condition for 15 to 30 minutes. Add remaining water in small portions until mortar reaches desired consistency. Use mortar within one hour of final mixing; do not re-temper or use partially hardened material.

- D. Colored Mortar: Produce mortar of color required by using selected ingredients. Do not alter specified proportions without Architect's approval.
  - 1. Mortar Pigments: Where mortar pigments are indicated, do not exceed a pigment-to-cement ratio of 1:10 by weight.
- E. Do not use admixtures of any kind in mortar, unless otherwise indicated.
- F. Patching Materials: Compatible with existing materials; visual matching.
- G. Cleaning Materials: Medium pressure water and steam.
- H. Cleaning Materials: Manufacturer's standard mild acidic masonry cleaner composed of hydrofluoric acid blended with other acids, detergents, wetting agents, and inhibitors. Cleaner should be compatible with weather sealer. Do not use muriatic acid.
  - 1. Manufacturers: Prosoco or approved equal.

### PART 3 - EXECUTION

#### 3.01 INSTALLATION

- A. Re-pointing: Rake out and re-point mortar joints to the following extent:
  - 1. All joints in areas indicated.
  - 2. Joints where mortar is missing or where they contain holes.
  - 3. Cracked joints where cracks can be penetrated at least 1/4 inch by a knife blade 0.027 inch (0.7 mm) thick.
  - 4. Cracked joints where cracks are 1/8 inch or more in width and of any depth.
  - 5. Joints where they sound hollow when tapped by metal object.
  - 6. Joints where they are worn back 1/4 inch or more from surface.
  - 7. Joints where they are deteriorated to point that mortar can be easily removed by hand.
  - 8. Joints, other than those indicated as sealant-filled joints, where they have been filled with substances other than mortar.
  - 9. Do not rake out and re-point joints where not required.
  - 10. Notify Architect of unforeseen detrimental conditions including voids in mortar joints, cracks, loose masonry units, rotted wood, rusted metal, and other deteriorated items. Rinse masonry-joint surfaces with water to remove dust and mortar particles.
  - 11. Time rinsing application so, at time of pointing, joint surfaces are damp but free of standing water. If rinse water dries, dampen masonry-joint surfaces before pointing.

12. Apply pointing mortar first to areas where existing mortar was removed to depths greater than surrounding areas. Apply in layers not greater than 3/8 inch until a uniform depth is formed. Fully compact each layer thoroughly and allow it to become thumbprint hard before applying next layer.
13. After low areas have been filled to same depth as remaining joints, point all joints by placing mortar in layers not greater than 3/8 inch. Fully compact each layer and allow to become thumbprint hard before applying next layer. Where existing bricks have worn or rounded edges, slightly recess finished mortar surface below face of masonry to avoid widened joint faces. Take care not to spread mortar over edges onto exposed masonry surfaces or to featheredge mortar.
14. When mortar is thumb print hard, tool joints to match original appearance of joints. Remove excess mortar from edge of joint by brushing.
15. Cure mortar by maintaining in thoroughly damp condition for at least 72 hours including weekends and holidays.
16. Acceptable curing methods include covering with wet burlap and plastic sheeting, periodic hand misting, and periodic mist spraying using system of pipes, mist heads, and timers.
17. Adjust curing methods to ensure that pointing mortar is damp throughout its depth without eroding surface mortar.
18. Where re-pointing work precedes cleaning of existing masonry, allow mortar to harden at least 30 days before beginning cleaning work.
19. Obtain materials from one source to maintain color/texture/quality consistency.
20. Work only when ambient 40 degrees F to 80 degrees F temperature will be maintained until 72 hours after completion.
21. Remove old mortar by hand chisel and mallet, unless Contractor can demonstrate that power tools will not damage masonry. Repair any damaged masonry.
22. Rake-out old mortar to depth equal to 2-1/2 times joint width and in no case less than 1/2" or depth required to expose sound mortar.
23. Do not damage masonry units. Repair any damaged masonry.
24. Rinse joints and install pointing mortar in 1/2" deep layers.

B. Chemical Cleaning:

1. Comply with cleaning chemical manufacturer's instructions, recommendations, and precautions.
2. Protect adjacent surfaces with masking agent or other effective means.
3. Clean surfaces in strict conformance with approved field tests and match mock-up panels.
4. Provide uniform final appearance.

### 3.02 MASONRY PATCHING

A. Patch the following masonry units:

1. Units damaged by re-pointing.
2. Units with holes from scaffolding.

## B. Patching Bricks:

1. Remove loose material from brick surface. Remove additional material so patch will not have feathered edges and will be at least 1/4 inch thick, but not less than recommended by patching compound manufacturer.
2. Mask or remove surrounding mortar joints if patch will extend to edge of brick.
3. Mix patching compound in individual batches to match each unit being patched. Combine one or more colors of patching compound, as needed, to produce exact match.
4. Rinse surface to be patched and leave damp, but without standing water.
5. Brush-coat surfaces with slurry coat of patching compound according to manufacturer's written instructions.
6. Place patching compound in layers as recommended by patching compound manufacturer, but not less than 1/4 inch or more than 2 inches thick. Roughen surface of each layer to provide a key for next layer.
7. Trowel, scrape, or carve surface of patch to match texture and surface plane of surrounding brick. Shape and finish surface before or after curing, as determined by testing, to best match existing brick.
8. Keep each layer damp for 72 hours or until patching compound has set.

END OF SECTION

- C. Protect persons and property from injury and damage during all operations. Do no work when winds prevent control of materials. Dispose of run-off in a legal manner.

## PART 2 - PRODUCTS

### 2.01 MATERIALS

- A. Epoxy Repair Products: Epoxy repair materials shall consist of 2 separate systems – a 2 part low viscosity epoxy primer / coupling agent and a 2 part thixotropic paste.
  - 1. Advanced Repair Technology, Cherry Valley, NY.
  - 2. Window Care Systems, Pembroke, MA.
  - 3. Approved equal.
- B. Paint Strippers: Chemical stripping agent; methylene chloride based Thixotropic stripper. Acceptable manufacturers:
  - 1. 509 Stripper
  - 2. ProSoCo
  - 3. Approved equal.
- C. Other Materials: Injectable borate gel, borate rods, low-temperature heat gun or heat plate – NO OPEN FLAME.

## PART 3 - EXECUTION

### 3.01 INSPECTION

- A. Inspect and test all wood sill, casing and trim components in conjunction with the Architect to determine the precise extent of restoration and of methods to be used. Replacement of wood components to be minimal; in-place repair with wood putty or epoxy compound is to be used if the existing wood component is less than 50% deteriorated.
  - 1. The Architect's decision regarding the extent of required repair and extent of profile replication work shall be final.
  - 2. In wood surfaces where decay is present, determine the methods and treatment of repair.
- B. Joints, Joinery and Edges: Check wood members at joints, seams and edges for:
  - 1. Any open seams or failed conditions.
  - 2. Wood moisture content.
  - 3. Presence of wood decay, by probing surfaces.

### 3.02 REMOVAL WORK

- A. Removal of Finishes:

1. Remove all peeling and loose paint by hand scraping and or hand sanding, taking care not to damage sound wood and profiles.
2. Strip all painted wood surfaces to bare wood or to un-deteriorated coatings, taking care not to damage sound wood and profiles, by the application of stripping paste or by the use of a heat gun or plate. Work and dispose of debris in accordance with approved methods. Do not damage any existing work to remain.
3. Wash all surfaces with recommended neutralizing agents to remove any foreign particles, dust and chemical residue, allowing surfaces to thoroughly dry.

### 3.03 PREVENTATIVE SYSTEMS

- A. Preservation and sealing of seams and joints; repair of wood checking due to weathering.
1. Open or failed seams and checks shall be dilated to a width of 3/16" and depth of 1/2".
  2. Remove all decayed or soft wood.
  3. Check the moisture content and hardness of wood at and around the repair, maximum allowable moisture content 18%.
  4. Sand bare wood to remove all loose fibers, paint, compounds. Remove all sawdust and dirt.
  5. Pre-treat bare and sanded wood thoroughly with low-viscosity epoxy coupling/bonding agent.
  6. Allow coupling agent to penetrate wood surface for a minimum of 10 minutes and maximum of 30 minutes, or as recommended by the manufacturer. Avoid applying in direct sunlight.
  7. Remove any excess bonding agent with absorbing paper.
  8. Apply epoxy repair compound over epoxy bonding agent while still tacky.
  9. Epoxy compound shall have optimal contact with wood. Avoid inclusion of air pockets during application; fill joints full, even and smooth in one application.
  10. Allow full cure time as specified by manufacturer before application of paint.
  11. After curing, sand surfaces even and smooth. Transitions between wood and epoxy shall not be visible after sanding.
  12. If required, smooth any remaining irregularities with an additional application of epoxy repair compound. Always sand between coats.

### 3.04 CURATIVE SYSTEMS

- A. Preservation and Repair of Damaged/Decayed Wood
1. Remove all paint and other coatings from area to be repaired.
  2. Remove all decayed and soft wood to sound bright unaffected material.
  3. Check moisture content and hardness of wood in and around repair areas.
  4. Sand bare wood to remove all loose fibers, paint, compounds. Remove all sawdust and dirt.

5. Drill holes in affected area to receive borate gel and rods. Follow manufacturer's instructions.
6. Inject borate gel. Gel should not come in contact with exposed wood surfaces.
7. Pre-treat bare and sanded wood thoroughly with low viscosity epoxy coupling/bonding agent. Allow to penetrate wood surface for min. 10 minutes and max. 30 minutes. Avoid applying in direct sunlight.
8. Remove any excess bonding agent with absorbing paper.
9. Apply epoxy repair compound over the uncured epoxy coupling agent. Epoxy fill shall have optimal contact with wood.
10. Fill joints full, even and smooth in one application. Allow full cure time as specified by manufacturer, before preparing for finishes.
11. After curing, sand surface even and smooth. Transitions between wood and epoxy shall not be visible after sanding.

### 3.05 ADJUSTMENTS

Repair or replace all defective work at no additional cost to the Owner.

END OF SECTION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Work Included: The work of this section shall include but not be limited to the following:
1. Architectural woodwork at new porch.
  2. Wood posts and railings.
  3. Related hardware and accessory materials.
  4. New standing and running trim where required.

1.02 RELATED WORK

- A. Section 06250 – Exterior Wood Restoration
- B. Section 07900 – Joint Sealers
- C. Section 09900 - Painting

1.03 QUALITY ASSURANCE

- A. AWI Quality Standard: Comply with applicable requirements of "Architectural Woodwork Quality Standards" published by the Architectural Woodwork Institute (AWI).
- B. Manufacturer's Qualifications: Firm having a minimum 10 years experience in successfully producing architectural woodwork similar to that indicated for this project with sufficient production capacity to produce required units without causing delay in the Work.
- C. Installer Qualifications: Arrange for installation of architectural woodwork by a firm which can demonstrate successful experience in installing architectural woodwork items similar in type and quality to those required for this project.
- D. Fire Retardant Treatment: Fire-retardant treat those items required by applicable codes to be treated and those items shown or specified as "Fire Retardant Treated Wood" or similar designation.
- E. Fire-Retardant Marking: Mark each unit of fire-retardant treated wood and plywood with producer's label and a label showing grade and rating. Mark on surface which will not be exposed after installation.

1.04 SUBMITTALS

- A. Product Data: Submit manufacturer's product data for each product and process specified as work of this section and incorporated into items of architectural woodwork during fabrication, finishing and installation.
- B. Wood Treatment Data: Submit chemical treatment manufacturer's instructions for handling, storing, installation, and finish of treated material. Include certification by treating plant that materials comply with requirements.
- C. Quality Certification: Submit woodwork Manufacturer's (Fabricator's) certification, stating that fabricated woodwork complies with quality grades and other requirements indicated.
- D. Shop Drawings: Submit shop drawings showing location of each item, dimensioned plans and elevations, large scale details, attachment devices and other components.
  - 1. Include full scale drawings of all exposed-to-view edge conditions.
  - 2. Submit coordination drawings indicating locations of concealed grounds, plates, and other required fabrications.

1.05 DELIVERY, STORAGE AND HANDLING

- A. Protect woodwork during transit, delivery, storage and handling to prevent damage, soiling and deterioration.
- B. Do not deliver woodwork, until painting, wet work, grinding and similar operations which could damage, soil or deteriorate woodwork have been completed in installation areas. Store woodwork only in areas meeting requirements specified for installation areas.

1.06 PROJECT CONDITIONS

- A. Conditioning: Woodwork Manufacturer and Installer shall advise Contractor of temperature and humidity requirements for woodwork installation and storage areas. Do not install woodwork until required temperature and relative humidity have been stabilized and will be maintained in installation areas.
- B. Maintain temperature and humidity in installation area as required to maintain moisture content of installed woodwork as specified under AWI quality reference standards.

1.07 COORDINATION

- A. Coordinate the work in this Section with other appropriate Sections of the specifications to insure proper scheduling for fabrication and installation of the work specified herein.
- B. Coordinate with partition and finish Sections of the specifications and other Contract Documents to insure that proper provisions are made for the installation of the work specified herein.
- C. Verify all dimensions in the field prior to fabrication of all architectural woodwork to assure proper fit.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. General: Provide materials that comply with requirements of the AWI woodworking standard for each type of woodwork and quality grade required.
- B. Plywood Standards: Comply with PS 1 "U.S. Product Standard for Construction and Industrial Plywood" for plywood and, for products not manufactured under PS 1, with APA PRP-108.
- C. Inspection Agencies: Inspection agencies and the abbreviations used to reference them with lumber grades and species include the following:
  - 1. RIS - Redwood Inspection Service.
  - 2. SPIB - Southern Pine Inspection Bureau.
  - 3. WCLIB - West Coast Lumber Inspection Bureau.
  - 4. WWPA - Western Wood Products Association.
- E. Grade Stamps: Provide lumber with each piece factory-marked with grade stamp of inspection agency evidencing compliance with grading rule requirements and identifying grading agency, grade, species, moisture content at time of surfacing, and mill.

2.03 FIRE-RETARDANT MATERIALS

- A. Where fire-retardant treated lumber is required by Building Code, provide materials which are pressure impregnated with fire-retardant chemicals and comply with the following requirements:

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1. Fire-Retardant Chemicals: Use chemicals which do not bleed-through or otherwise adversely affect finishes. Do not use colorants to distinguish treated lumber from untreated lumber.
  2. Available Products: Subject to compliance with requirements, products which may be incorporated in the work include, but are not limited to, the following:
    - a. "Dricon"; Koppers Co., Inc.
    - b. "Flameproof LHC"; Osmose Wood Preserving Co. of America, Inc.
    - c. "Protex"; Hoover Universal Wood Preserving Division.
- B. Fire Performance Characteristics: Provide materials which are identical to those tested per ASTM methods and time periods indicated, are marked and listed for fire performance characteristics by Underwriters Laboratories, Inc. or other testing and inspecting agency acceptable to authorities having jurisdiction, and comply with the following requirements:
1. Mill lumber after treatment, within limits set for wood removal which does not affect listed fire performance characteristics, using a woodworking plant certified by testing and inspection agency.
  2. Marking: Identify treated lumber with separable paper classification marking of inspecting and testing agency.
  3. Surface Burning Characteristics: Not exceeding values required by Building Code when tested per ASTM E 84.
  4. Kiln-dry woodwork after treatment to levels required by woodwork standard. Maintain moisture content before and after treatment.
  5. Discard treated lumber which does not comply with requirements of referenced woodworking standard. Do not use defective lumber.
- C. Provide fire-retardant particleboard with surface-burning characteristics of 20 for flame spread and 25 for smoke developed when tested in accordance with ASTM E 84. Comply with ANSI A108.1 for Grade 1-M-1 panels with density of 45 lbs./cu. ft. for thickness of 3/4" and less.

2.04 FABRICATION, GENERAL

- A. Comply with requirements of referenced quality standard for moisture content of lumber at time of fabrication and for relative humidity in installation areas.

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- B. Fabricate woodwork to dimensions, profiles, and details indicated with openings and mortises precut, where possible, to receive hardware and other items and work.
- C. Complete fabrication, assembly, finishing, hardware application, and other work before shipment to maximum extent possible. Disassemble components only as necessary for shipment and installation. Where necessary, provide ample allowance for scribing, trimming, and fitting.
- D. Measurements: Before fabrication of woodwork to be fitted to other construction, obtain field measurements and verify dimensions and shop drawing details as required for accurate fit. Where field measurements before fabrication would delay the project, fabricate without field measurements and provide ample borders and edges to allow scribing and trimming of woodwork.

2.05 ARCHITECTURAL WOODWORK GENERAL

- A. General: Except as otherwise indicated, comply with following requirements for custom fabricated architectural woodwork.
- B. All wood shall be sound, flat, straight, well seasoned, thoroughly dry and free from all defects. Warped or twisted wood shall not be used.
- C. Solid Wood: AWI Section 100, Grade 1.
- D. Lumber: AWI Section 100 with the following requirements:
  - 1. Hardwood for Concealed Blocking and Framing: Economy grade, any species which when painted, will not show any defects.

2.08 STANDING AND RUNNING TRIM

- A. Trim: For trim in form of boards and worked products, provide lumber complying with the following requirements.
- B. Fabricate trim to sizes, profiles and dimensions on drawings, according to AWI Section 300, Premium Grade.
- C. Factory prime items indicated to have an opaque finish except as indicated.

2.09 MISCELLANEOUS MATERIALS

- A. Fasteners for Finish Carpentry: Nails, screws, and other anchoring devices of type,

size, material, and finish required for application indicated to provide secure attachment, concealed where possible.

1. Countersink nails, fill surface flush, and sand where face nailing is unavoidable.
  2. Where finish carpentry materials are exposed in areas of high humidity, provide fasteners and anchorages with hot-dip galvanized coating complying with ASTM A 153.
- B. Adhesives: Comply with manufacturer's recommendations for adhesives.
- C. Anchors: Select material, type, size, and finish required by each substrate for secure anchorage. Provide nonferrous metal or hot-dip galvanized anchors and inserts on inside face of exterior walls and elsewhere as required for corrosion resistance. Provide toothed steel or lead expansion bolt devices for drilled-in-place anchors. Furnish inserts and anchors, as required, to be set into concrete or masonry work for subsequent woodwork anchorage.

## 2.10 MISCELLANEOUS ITEMS AND ACCESSORIES

- A. Screws: Select material, type, size and finish required for each use. Comply with FS FF-S-111 for applicable requirements. For metal framing supports, provide screws as recommended by metal framing manufacturer.
- B. Nails: Select material, type, size and finish required for each use. Comply with FS FF-S-105 for applicable requirements.
- C. Anchors: Select material, type, size and finish required by each substrate for secure anchorage. Provide hot-dip galvanized anchors and inserts.

## PART 3 - EXECUTION

### 3.01 INSTALLATION

- A. Install woodwork plumb, level, true and straight with no distortions. Shim as required using concealed shims. Install to a tolerance of 1/8" in 8'-0" for plumb and level (including cabinets and tops); and with no variations in flushness of adjoining surfaces.
- B. Scribe and cut woodwork to fit adjoining work and refinish cut surfaces or repair damaged finish at cuts.

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- C. Anchor woodwork to anchors or blocking built in or directly attached to substrate. Secure to grounds stripping and blocking with countersunk, concealed fasteners and blind nailing. Use fine finishing nails for exposed nailing, countersunk and filled flush with woodwork, and matching final finish.
- D. Fire-Retardant Woodwork: Handle, store and install in accordance with manufacturer's directions and as required to meet required classification or rating. Provide special fasteners, moldings, adhesives and other accessories as tested and listed for type of fire-retardant woodwork indicated.
- E. Standing, Running Trim and Railings: Install with minimum number of joints, using full length pieces when possible. Stagger joints in adjacent and related members. Cope at returns, miter at corners, and comply with Quality Standards for joinery.

3.02 ADJUSTMENT, CLEANING AND PROTECTION

- A. Repair damaged and defective woodwork wherever possible to eliminate defects, functionally and visually; where not possible to repair properly, replace woodwork. Adjust joinery for uniform appearance.
- B. Clean woodwork on exposed and semi-exposed surfaces. Touch-up shop applied finishes to restore damaged or soiled areas.
- D. Complete the finishing work specified as work of this section, to whatever extent not completed at shop or prior to installation of woodwork.
- E. Joints shall be neatly and accurately made, fitted tight, blocked or otherwise put together so as to avoid opening.
- F. Provide protection which ensures architectural woodwork being without damage or deterioration at time of substantial completion.

END OF SECTION

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes joint sealants for the following applications:
  - 1. Exterior joints in the following vertical surfaces and horizontal non-traffic surfaces:
    - a. Joints between masonry, stucco and wood trim units.
    - b. Other joints as indicated.
- B. Related Sections include the following:
  - 1. Section 06400 – Architectural Woodwork.

1.3 PERFORMANCE REQUIREMENTS

- A. Provide elastomeric joint sealants that establish and maintain watertight and airtight continuous joint seals without staining or deteriorating joint substrates.

1.4 SUBMITTALS

- A. Product Data: Submit manufacturer's product data and installation instructions for each material and product used.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.
- C. Compatibility and Adhesion Test Reports: From sealant manufacturer, indicating the following:
  - 1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility and adhesion with joint sealants.
  - 2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.
- D. Warranties: Special warranties specified in this Section.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: Manufacturer's authorized Installer who is approved or licensed for installation of elastomeric sealants required for this Project.
- B. Source Limitations: Obtain each type of joint sealant through one source from a single manufacturer.
- C. Comply with governing codes and regulations. Deliver, handle, and store materials in accordance with manufacturer's instructions.
- D. Field Constructed Mock-ups: Prior to installation of joint sealants, apply elastomeric sealants as follows to verify selections made under sample submittals and to demonstrate aesthetic effects as well as qualities of materials and execution.
  - 1. Joints that are indicated to receive elastomeric joint sealants specified in this section.

1.6 PROJECT CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
  - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer.
  - 2. When joint substrates are wet.
  - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
  - 4. Contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.7 WARRANTY

- 1. All materials installed under this section, shall be warranted for a period of twenty (20) years against defects in materials or material failure, in addition to sealants installed as part of assembly performance or workmanship qualifications as indicated in other sections. Defects are defined as edge separation or de-lamination.

PART 2 - PRODUCTS

2.1 MATERIALS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

## 2.2 ELASTOMERIC JOINT SEALANTS

- A. Elastomeric Sealants: Comply with ASTM C 920 and other requirements indicated for each liquid-applied chemically curing sealant specified, including those referencing ASTM C 920 classifications for type, grade, class, and uses related to exposure and joint substrates.
- B. Stain-Test-Response Characteristics: Provide products that have undergone testing according to ASTM C 1248 and have not stained porous joint substrates indicated for Project.
- C. Silicone Elastomeric Joint Sealants
  - a. Manufactures: Tremco, Inc. "Dymeric"; Pecora Corp. "Dynatrol II"; Bostik Cons "Chem-Calk 900".
  - 2. Type and Grade: M (single component) and NS (nonsag); two part gunnable polyurethane sealant.
  - 3. Class: 25.
  - 4. ASTM C 920, modulus as required for application.
  - 5. For vertical and horizontal use.

## 2.3 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Non-staining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.
- D. Elastomeric tubing backer rods.

## PART 3 - EXECUTION

### 3.1 EXAMINATION

- A. Examine substrate; report unsatisfactory conditions in writing. Beginning work means acceptance of substrates.

### 3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.

- B. Joint Priming: Prime joint substrates, where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

### 3.3 INSTALLATION OF JOINT SEALANTS

- A. Provide sealants in color as selected from manufacturer's standards.
- B. Install materials and systems in accordance with manufacturers' instructions and approved submittals. Install materials and systems in proper relation with adjacent construction and uniform appearance. Coordinate work with other sections. Clean and prime joints, install bond breakers, backer rods and sealant as recommended by manufacturers
- C. Depth shall equal with up to ½" wide; depth shall equal half width for joints over.
- D. Cure and protect sealants as directed by manufacturers. Replace or restore damaged sealants. Clean adjacent surfaces to remove spillage.

END OF SECTION

PART 1 - GENERAL

1.01 WORK INCLUDED

- A. Where items or surfaces are not specifically mentioned, paint the same as similar adjacent materials or areas. If color is not designated, Architect will select these from standard colors.

1.02 RELATED WORK

- A. Shop priming is included in sections for metal fabrications and similar metal items, as applicable.
- B. Shop priming of shop-fabricated or factory-built products is included under other sections of these specifications.

1.03 WORK NOT INCLUDED

- A. Pre-Finished Items: Do not include painting when shop or factory finishing is specified for items.
- B. Concealed Surfaces: Painting is not required on surfaces in concealed and generally inaccessible areas.
- C. Finished Metal Surfaces: Anodized aluminum, stainless steel, and similar finished metals will not require painting.
- D. Labels: Do not paint over any code-required labels, such as Underwriters' Laboratories and Factory Mutual, or any equipment identification, performance rating, name, or nomenclature plates.

1.04 QUALITY ASSURANCE

- A. Single Source Responsibility: Provide primers and undercoats produced by same manufacturer as finish coats. Use only thinners approved by paint manufacturer, and use only within recommended limits.
- B. Coordination of Work: Review other sections of these specifications for shop primers, to ensure compatibility of total coatings system. Upon request from other trades, furnish information on finish materials, to ensure that compatible prime coats are used.
- C. Applicator: A firm with not less than 5 years of successful experience in the application of specified materials.

1.05 SUBMITTALS

- A. Product Data: Submit manufacturer's technical information including paint label analysis and application instructions for each material.
- B. Samples: Prior to painting, submit samples for Architect's review of each required color and texture. Identify materials used on samples. Samples shall have each

coat of paint exposed the same amount and tinted slightly different than other coats. On 12" x 12" hardboard, submit three samples of each color, material and texture, until sheen, color, and texture are acceptable.

1.06 DELIVERY AND STORAGE

- A. Deliver materials in original, new and unopened packages and containers bearing manufacturer's name and label, and following information:
  - 1. Name or title of material
  - 2. Fed. Spec. number, if applicable.
  - 3. Manufacturer's name, stock number, and date of manufacture
  - 4. Contents by volume, for major pigment and vehicle constituents
  - 5. Thinning and application instructions
  - 6. Color name and number
  
- B. Store materials not in actual use in tightly covered containers. Maintain containers used in storage of paint in a clean condition, free of foreign materials and residue.
  - 1. Protect materials from freezing where necessary. Keep storage area neat and orderly. Remove oily rags and waste daily.
  - 2. Ensure that workmen and work areas are adequately protected from fire hazards and health hazards resulting from use of paints.

1.07 JOB CONDITIONS

- A. Apply water-base paints only when temperature of surfaces to be painted and surrounding air temperatures are between 50°F and 90°F, unless otherwise permitted by paint manufacturer's instructions.
- B. Apply solvent-thinned paints only when temperature of surfaces to be painted and surrounding air temperatures are between 45°F and 95°F, unless otherwise permitted by paint manufacturer's instructions.
- C. Do not apply paint when relative humidity exceeds 85%; or to damp or wet surfaces; unless otherwise permitted by paint manufacturer.

PART 2 PRODUCTS

2.01 MANUFACTURERS

- A. Manufacturer: Subject to compliance with requirements, provide products as manufactured by Benjamin Moore and Co. (Moore) or an approved equal of one of the following:
  - 1. Con-Lux Coatings, Inc
  - 2. Glidden Coatings and Resins, Div. of SCM Corp. (Glidden)
  - 3. PPG Industries, Pittsburgh Paints (Pittsburgh)
  - 4. Pratt and Lambert (P & L)

5. The Sherwin-Williams Company (S-W)
  6. Tnemec
- B. Proprietary names of colors or materials are not intended to imply that products of named manufacturers are required to exclusion of equivalent products of other manufacturers.

## 2.02 MATERIALS

- A. Material Quality: Provide best quality grade of various types of coatings as regularly manufactured by acceptable paint materials manufacturers. Materials not displaying manufacturer's identification as a standard, best-grade product will not be acceptable.
- B. Volatile Organic Materials: Provide paint and coating products to comply with applicable environmental regulations and authorities. Federal numbers, where specified, are for guidelines only.
- C. Primers and Undercoaters: Provide primers and undercoaters recommended by the finish coating manufacturer for suitability with the substrate and compatibility with finish coats.
- D. Color Pigments: Pure, non-fading, to suit substrates and service.

## PART 3 EXECUTION

### 3.01 INSPECTION

- A. Examine areas and conditions of work and notify Contractor in writing of conditions detrimental to proper painting. Proceed with work after unsatisfactory conditions have been corrected.
- B. Starting of painting work will be construed as Applicator's acceptance of surfaces and conditions within any particular area.
- C. Do not paint over dirt, rust, scale, grease, moisture, or conditions detrimental to formation of a durable paint film.

### 3.02 SURFACE PREPARATION

- A. General: Perform preparation and cleaning in accordance with paint manufacturer's instructions and as herein specified.
  1. Provide barrier coats over incompatible primers or remove and re-prime as required. Notify Architect in writing of any anticipated problems with substrates primed by others.
  2. Remove hardware, accessories, lighting fixtures, and similar items not to be field-painted, or provide suitable protection. Remove items if necessary, for painting of items or adjacent surfaces. Reinstall removed items on completion of painting.
  3. Clean surfaces to be painted. Remove oil and grease prior to other cleaning. Be sure that cleaning materials do not fall onto newly-painted surfaces.

- B. Cementitious Materials: Remove efflorescence, chalk, dust and dirt. Determine alkalinity and moisture content of surfaces to be painted. Correct alkalinity before application of paint.
- C. Wood: Scrape and clean small, dry, seasoned knots and apply a recommended knot sealer before priming. After priming, fill imperfections with plastic wood-filler. Sandpaper wood surfaces smooth.
- D. Ferrous Metals: Clean unfinished ferrous surfaces of oil, grease, dirt, loose mill scale and other foreign substances by solvent or mechanical cleaning. Touch-up defective prime coats with shop primer.
- E. Galvanized Surfaces: Clean free of oil and surface contaminants with non-petroleum based solvent.

### 3.03 MATERIALS PREPARATION

- A. Mix and prepare painting materials in accordance with manufacturer's directions.
- B. Maintain containers used in mixing and application of paint in a clean condition, free of foreign materials and residue.
- C. Stir materials before application to produce a mixture of uniform density, and stir as required during application. Remove surface film and, if necessary, strain material before using.

### 3.04 APPLICATION

- A. General: Apply paint in accordance with manufacturer's directions. Use techniques best suited for substrate and type of material being applied.
  - 1. Paint colors, surface treatments, and finishes, are indicated in the Contract Documents.
  - 2. Provide finish coats which are compatible with prime paints used.
  - 3. Apply additional coats when undercoats show through final coat of paint, until paint film is of uniform finish, color and appearance, including edges, corners, crevices, welds, and fasteners.
  - 4. Finish exterior doors on tops, bottoms and side edges same as exterior faces, unless otherwise indicated.
  - 5. Sand lightly between each succeeding enamel or varnish coat.
  - 6. Omit first coat (primer) on metal surfaces which have been shop-primed and touch-up painted.
- B. Scheduling Painting: Apply first-coat material to surfaces that have been prepared for painting as soon as practicable after preparation. Allow sufficient time for proper drying. Do not recoat until paint feels dry and firm.
- C. Minimum Coating Thickness: Apply materials to establish a total dry film thickness as indicated or, if not indicated, as recommended by coating manufacturer.
- D. Prime Coats: Apply prime coat on material which is required to be painted or finished, and which has not been prime coated by others. Recoat primed and sealed surfaces where there is evidence of defects in first coat, to assure a finish coat

without defects.

- E. Pigmented (Opaque) Finishes: Completely cover to provide an opaque, smooth surface of uniform finish, color, appearance and coverage. Cloudiness, spotting, holidays, laps, brush marks, runs, sags, ropiness or other surface imperfections will not be acceptable.
- F. Completed Work: Match approved samples for color and texture. Repaint work not in compliance with specified requirements.

### 3.05 CLEAN-UP AND PROTECTION

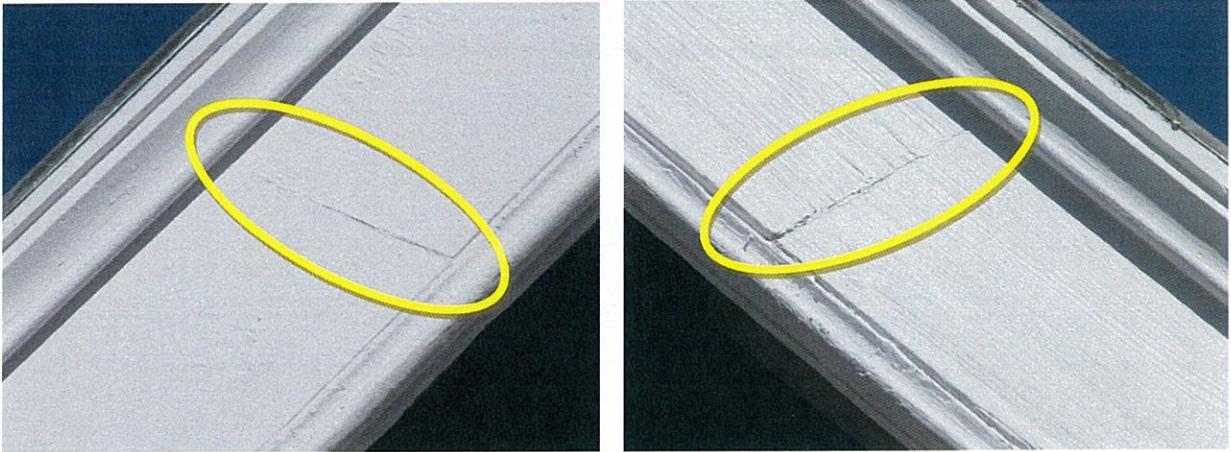
- A. Clean-Up: During progress of work, remove from site discarded paint materials, rubbish, cans and rags at end of each work day.
- B. Upon completion of painting work, clean paint-spattered surfaces. Remove spattered paint by proper methods, with care not to scratch or otherwise damage finished surfaces.
- C. Protection: Protect work of other trades against damage by painting and finishing work. Correct any damage by cleaning, repairing or replacing, and repainting, as acceptable to Architect.
  - 1. Provide "Wet Paint" signs to protect newly-painted finishes. Remove temporary protective wrappings provided by others for protection of their work, after completion of painting operations.
  - 2. At completion of work of other trades, touch-up and restore all damaged or defaced surfaces.

### 3.06 EXTERIOR PAINT SCHEDULE

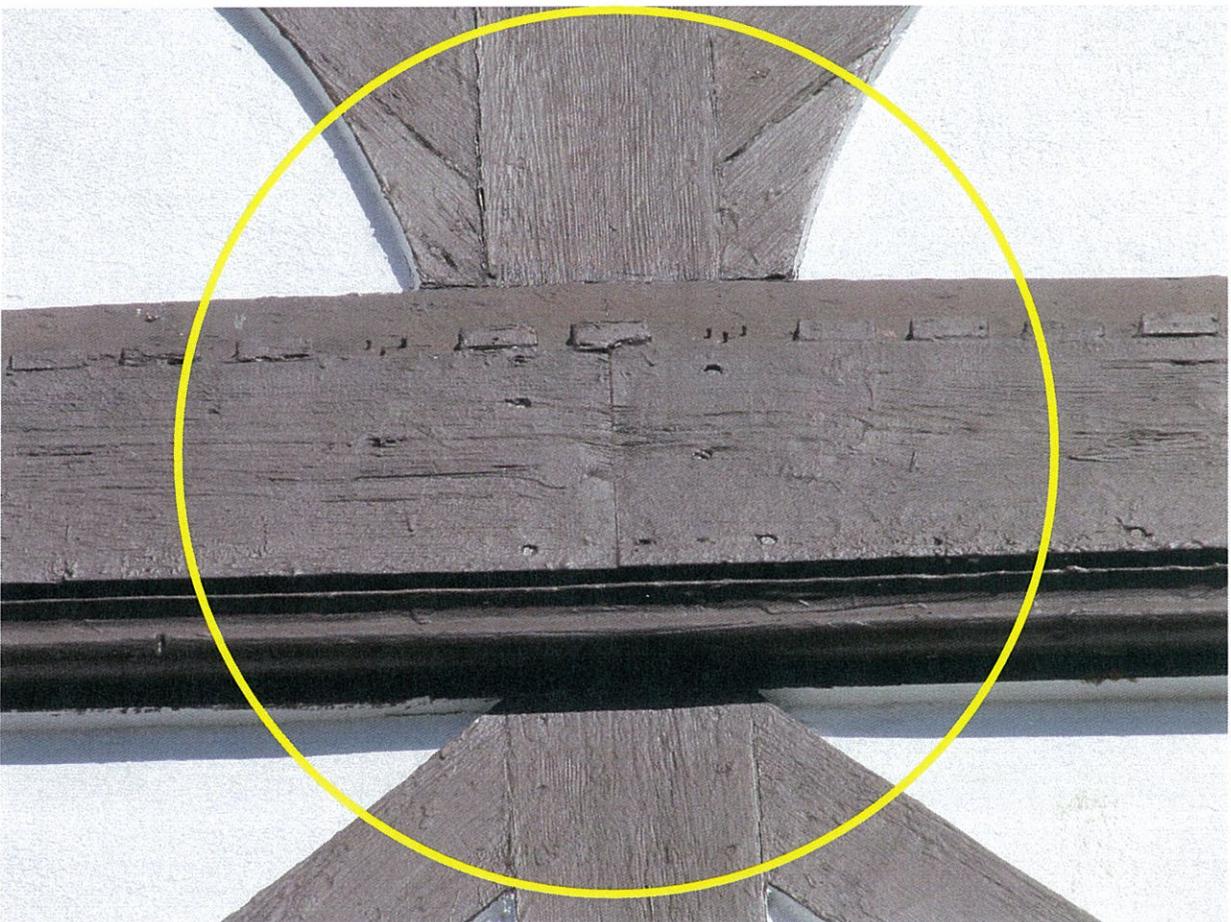
- A. Concrete, Plaster, and Masonry (where required):
  - 1. First Coat: Exterior Acrylic Emulsion.
  - 2. Second Coat: Exterior Acrylic Emulsion.
- B. Zinc-Coated Metal:
  - 1. Primer: Galvanized Metal Primer.
  - 2. First Coat: Alkyd Gloss Enamel.
  - 3. Second Coat: Alkyd Gloss Enamel.
- C. Primed, Galvanized and Unprimed Ferrous Metal, Including: exposed lintels and masonry and cast stone support framing; bollards; guardrails, railings and handrails; ladders; hollow metal doors and frames (interior and exterior surfaces) at exterior locations; ornamental screens and gates; grates and frames; relief and intake vents:
  - 1. Intermediate (1) Coat; Tnemec 66; 4.0 to 6.0 dry mil thickness.
  - 2. Finish (1) Coat; Tnemec 70 or 71 as selected; 1.5 to 2.5 dry mil thickness.
- D. Opaque Painted Wood: Including standing and running trim; back prime standing and running trim prior to installation:
  - 1. 1 coat exterior enamel undercoat/primer.
  - 2. 2 coats exterior odorless alkyd enamel; semi-gloss.

END OF SECTION

ADDENDIX A  
Wood Trim (T) & Masonry (M) Repairs Photographs



Photographs T1 & T2: Repair trim & re-finish



Photographs T3: Fill, sand & re-finish trim boards



Photographs T4: Fill, sand & re-finish trim boards



Photographs T5: Fill, sand & re-finish trim boards



Photograph T6: Replace trim



Photograph T7: Replace trim



Photograph T8: Re-fasten trim, seal & re-finish



Photographs T9 & T10: Repair trim & re-finish



Photographs T11 & T12: Repair trim & re-finish

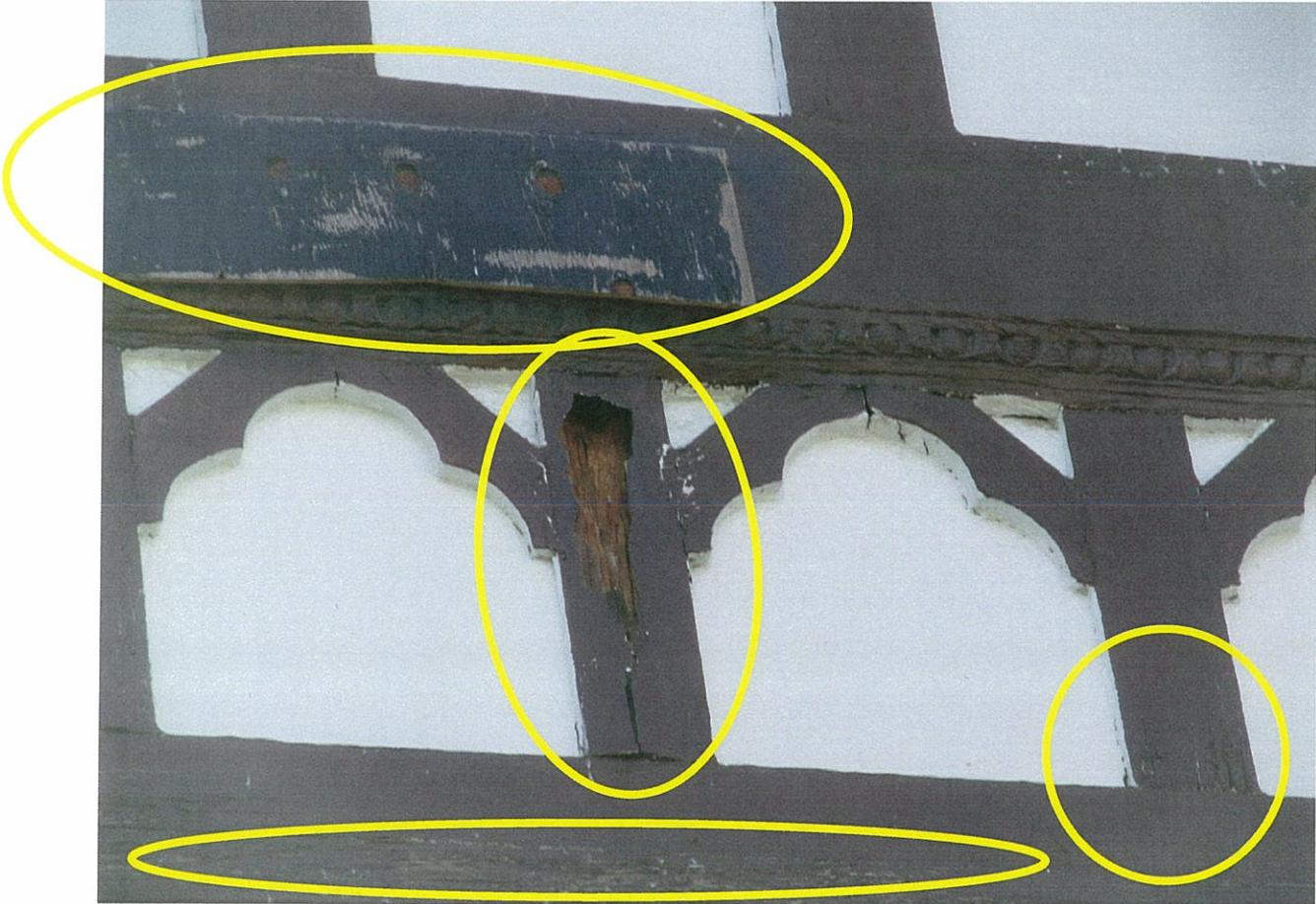


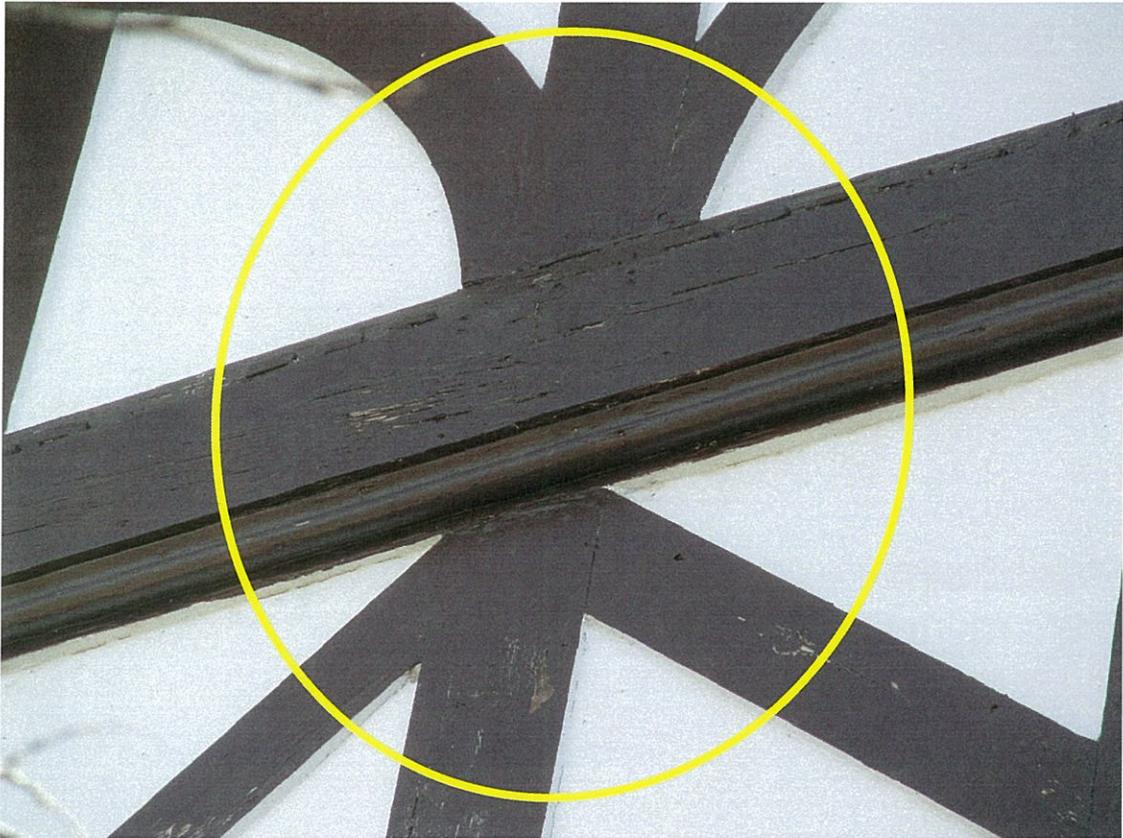
Photo T13: Replace trim (left) / Repair trim & re-finish (right & low) / Remove board & repair & re-finish trim below (top)



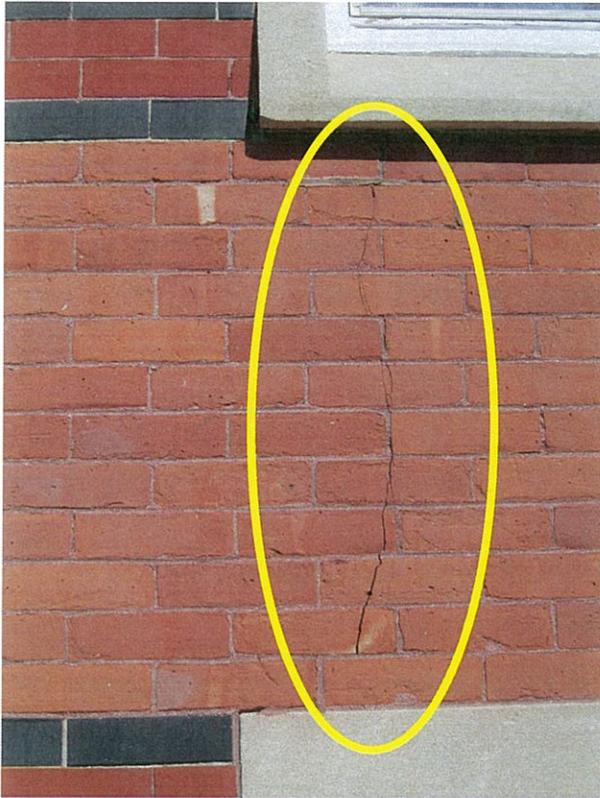
Photograph T14: Typical soffit & trim



Photograph T15: Refasten decorative applique



Photograph T16: Fill, sand & re-finish trim boards



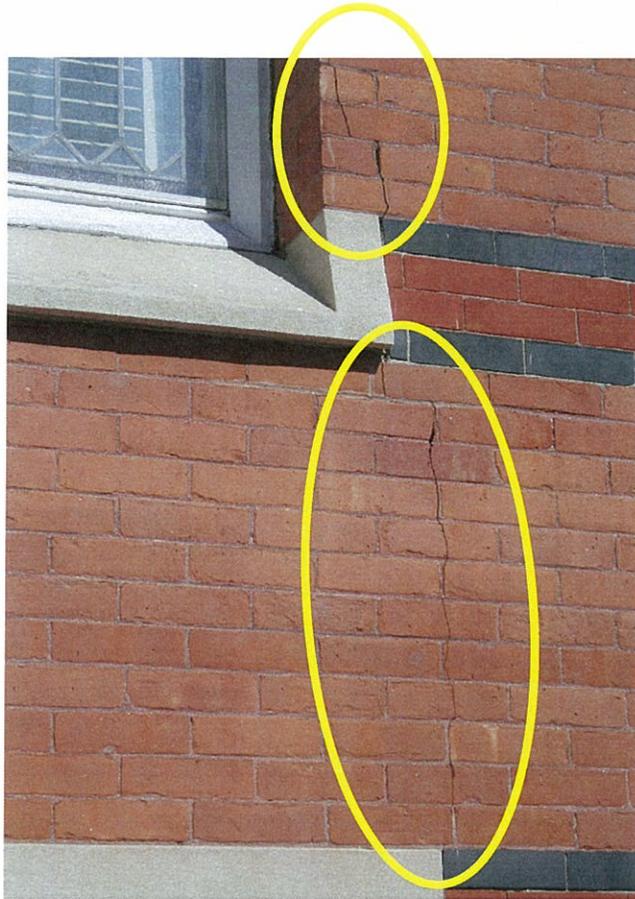
Photograph M1: Replace broken bricks



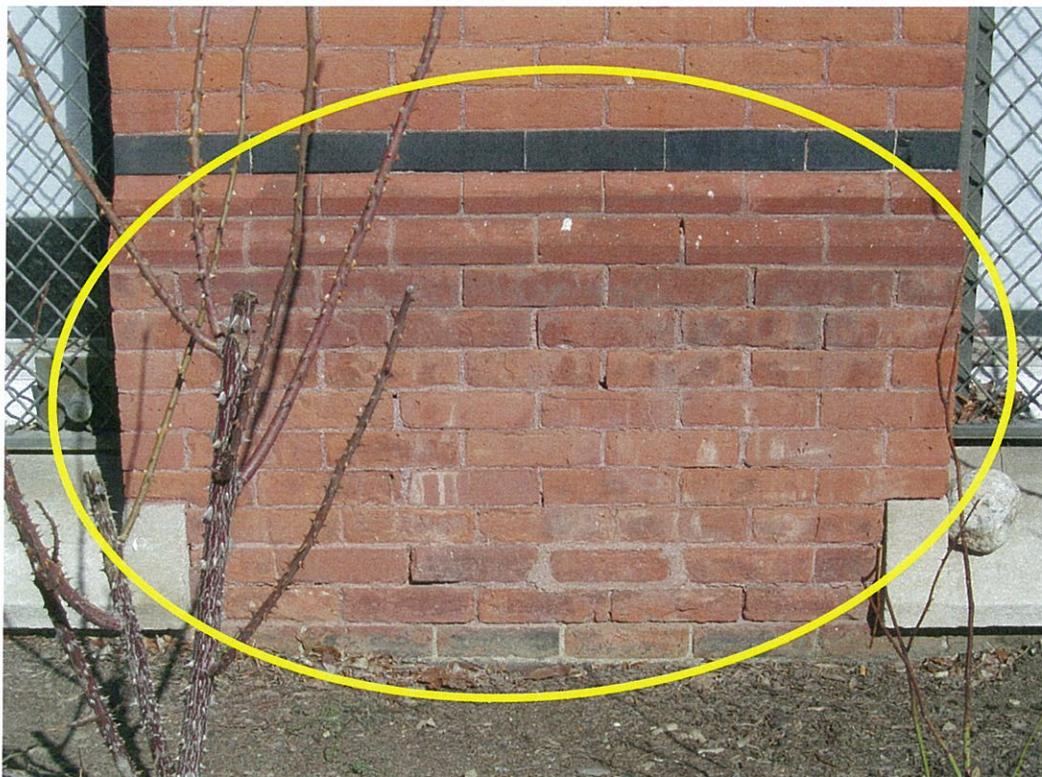
Photograph M2: Repoint brick joint



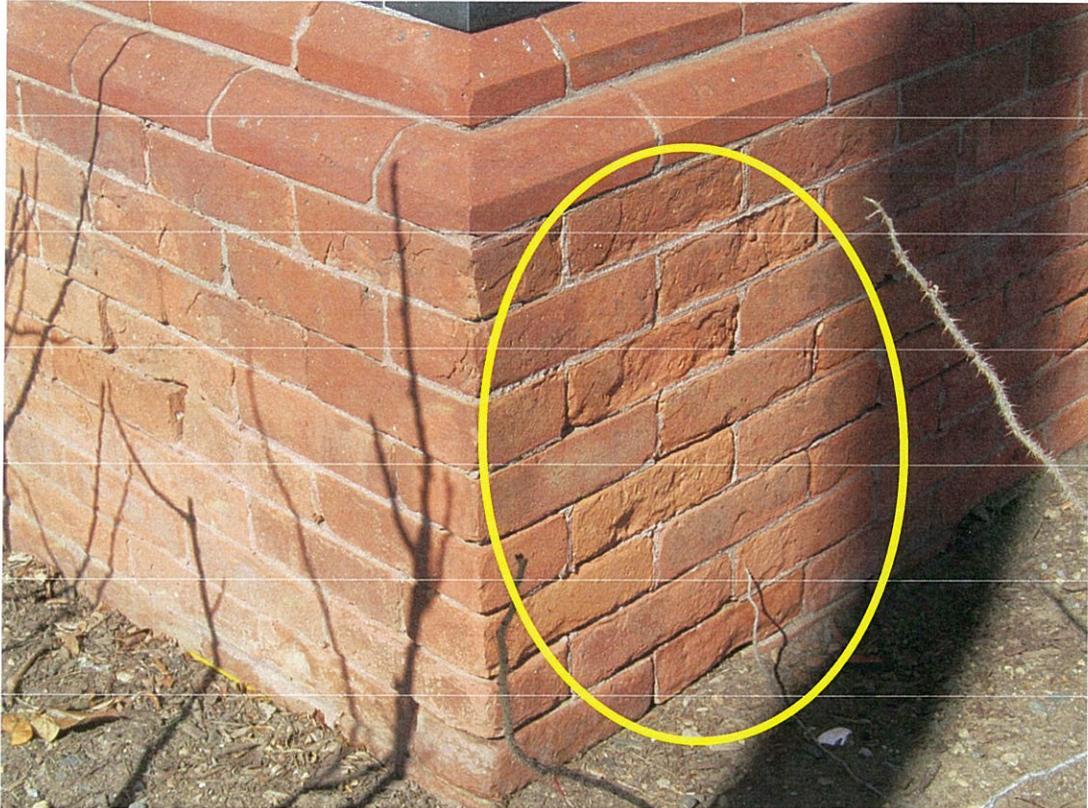
Photograph M3: Repoint brick joints



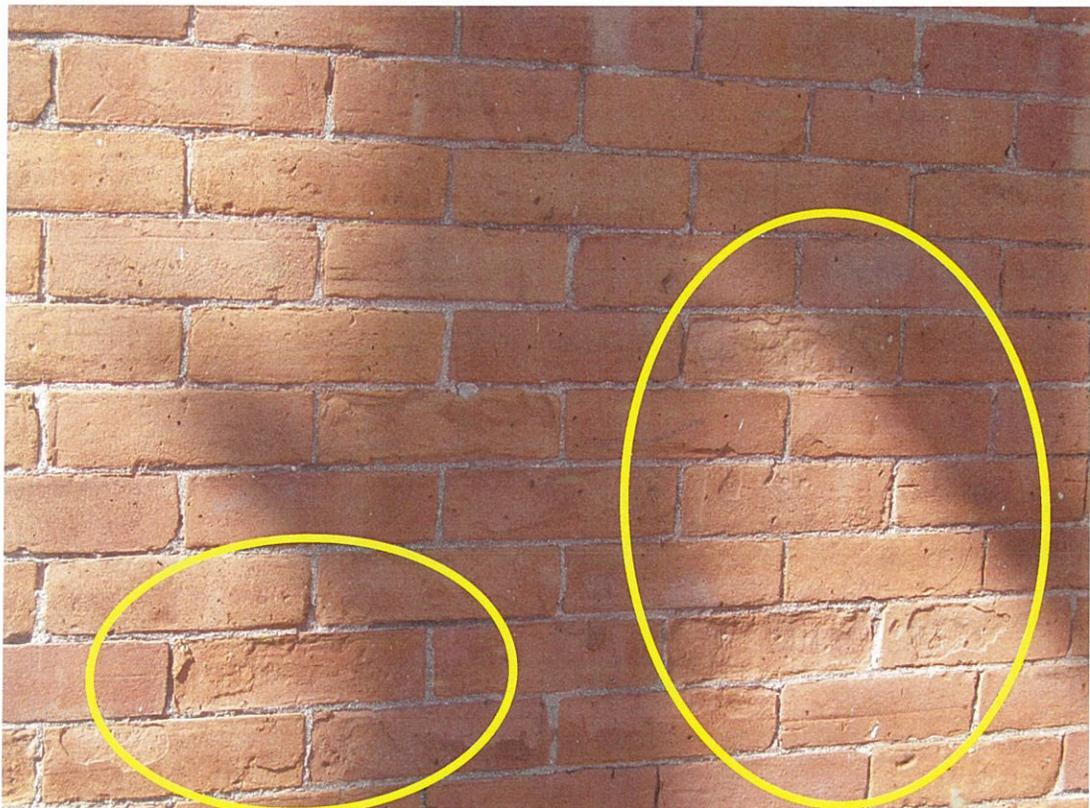
Photograph M4: Replace broken bricks



Photograph M5: Repoint brick joints



Photograph M6: Replace damaged bricks



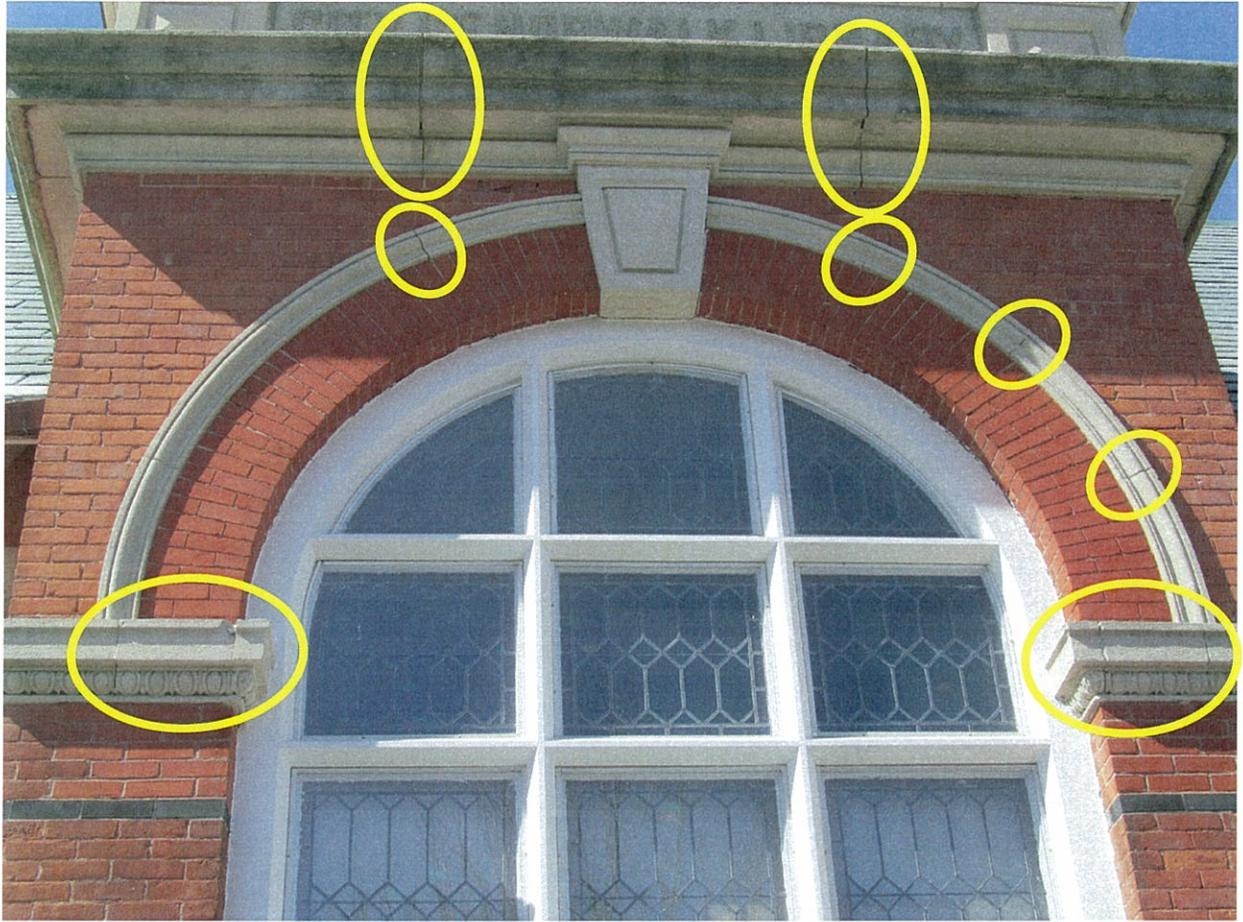
Photograph M7: Replace damaged bricks



Photograph M8: Repoint brick joints



Photograph M9: Repoint brick joints



Photograph M10: Repoint cast stone joints

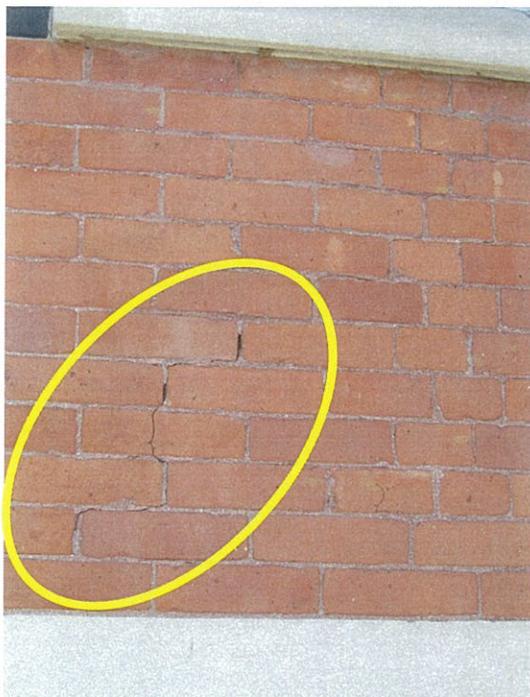
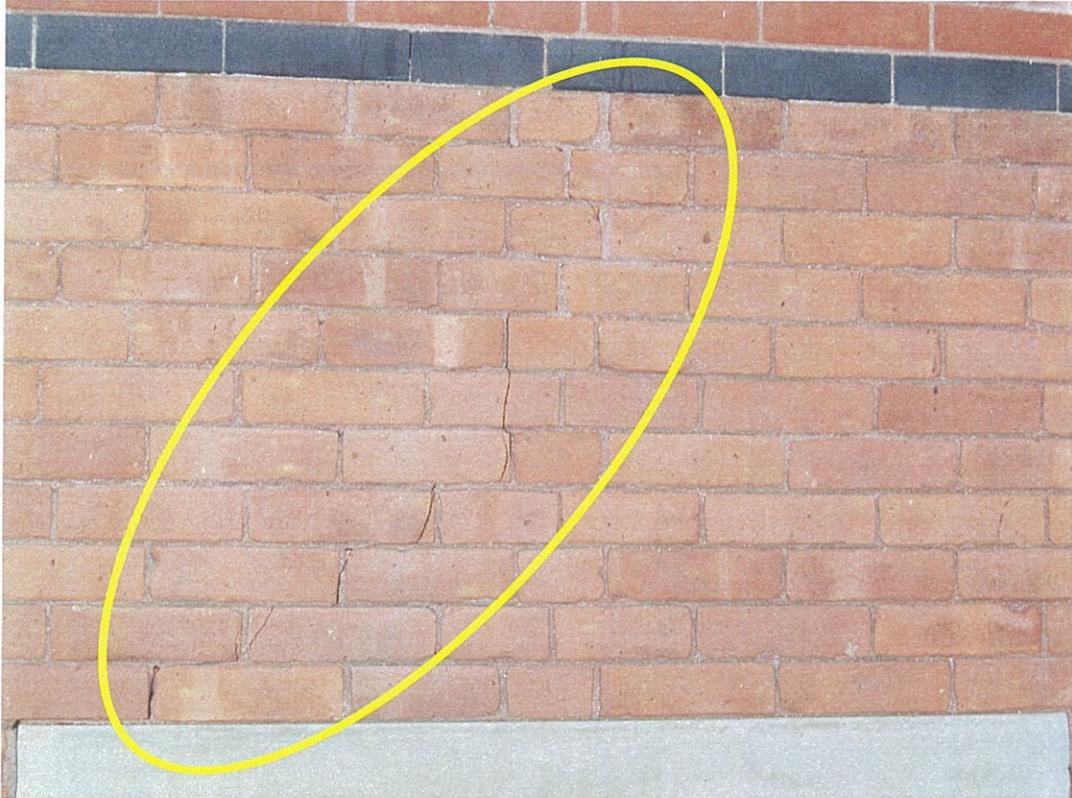


Photo M11: Replace damaged brick & repoint joints



Photo M12: Replace damaged brick & repoint joints



Photograph M13: Replace damaged brick & repoint joints



Photograph M14: Repoint cast stone joints



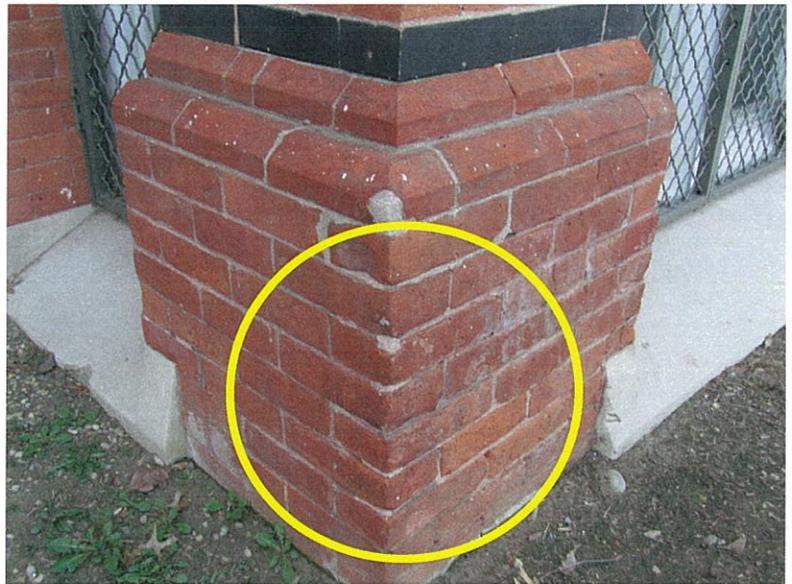
Photograph M15: Repoint brick joint / hole



Photograph M16: Clean brick



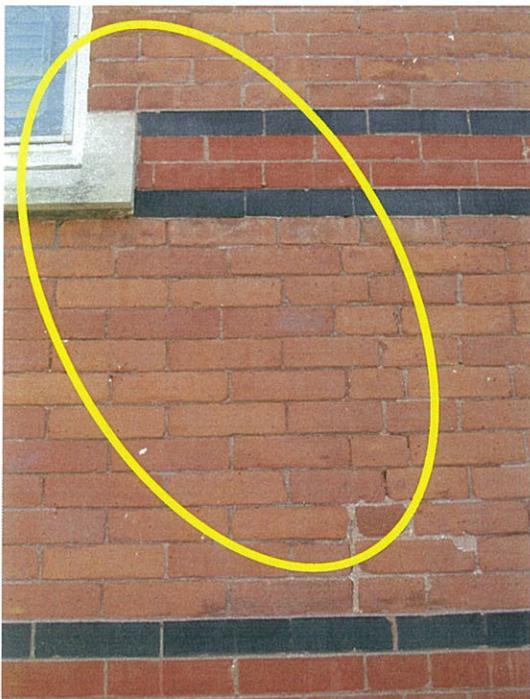
Photograph M17: Repoint brick joints



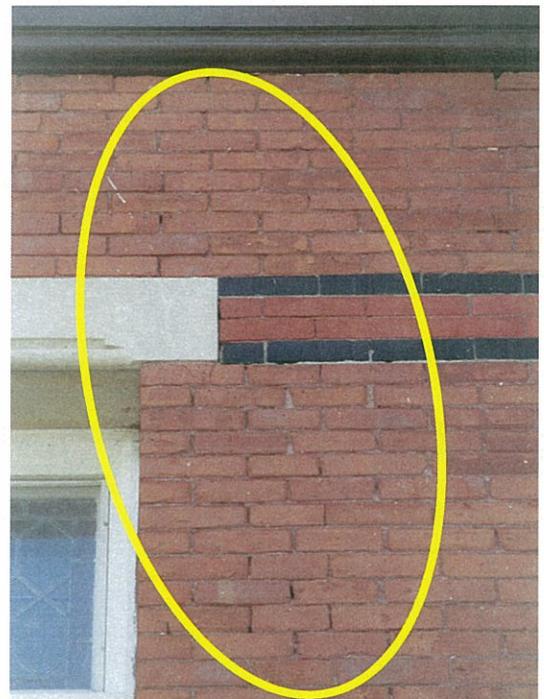
Photograph M18: Repoint brick joints



Photograph M19: Repoint brick joints / remove excess mortar



Photograph M20: Repoint brick joints



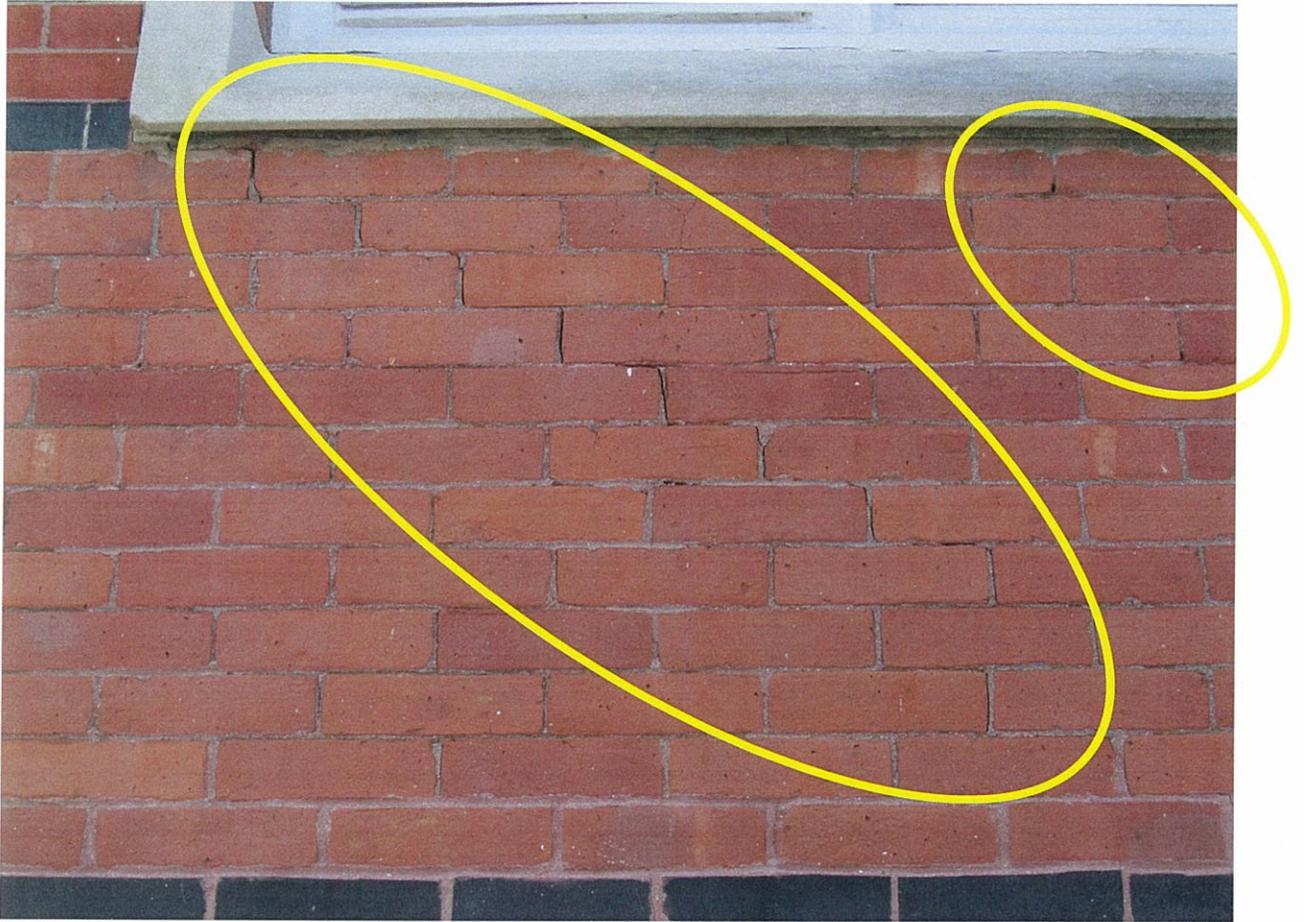
Photograph M21: Repoint brick joints



Photograph M22: Repoint brick joints



Photograph M23: Repoint brick joints



Photograph M24: Repoint brick joints

ADDENDIX B  
Lead-Based Paint Remediation

LEAD-BASED PAINT REMEDIATION PLAN

NORWALK PUBLIC LIBRARY  
1 BELDEN AVENUE  
NORWALK, CT

JANUARY 2016

Prepared by: HYGENIX, Inc.  
49 Woodside Street  
Stamford, CT 06902

## LEAD-BASED PAINT REMEDIATION

### PART 1 - GENERAL

#### 1.01 DEFINITION OF LEAD-BASED PAINT

- A. For the purposes of these specifications, lead-based paint (LBP) includes all surfaces with XRF lead readings of 1.0 mg/cm<sup>2</sup> or greater, and all paint films and particles with lead content greater than or equal to 0.5% by weight as demonstrated by EPA-approved test methods.

#### 1.02 SCOPE OF WORK

The following table represents the work of this Section:

BUILDING LOCATION	BUILDING COMPONENT	CORRECTION TECHNIQUE	REMEDICATION ACTION
Side A – D Exterior	Wood Components	REM/REP	Any wood scheduled for removal by the Owner shall be removed and disposed of as lead waste
Side A – D Exterior	Remaining Wood Components	Paint Stabilization	Repair any defective and flaking paint to prepare the surface to be painted with premium quality paint (as specified by the owner) as per the manufacturer's specifications.

#### 1.03 PROJECT SCHEDULE

The remediation work shall be performed when the facility is not occupied by any children.

#### 1.04 CONTRACTOR QUALIFICATIONS

- A. The work described in these specifications shall be carried out by persons who are knowledgeable, qualified and trained in the removal, treatment and handling of lead paint, and the subsequent cleaning of the affected environment. The lead remediation contractor shall have a competent supervisor on site at all times during lead remediation work. This person's training shall comply with all applicable State and federal requirements. *Note: As of April 22, 2010, US Environmental Protection Agency (EPA) Lead Renovation, Repair and Painting Rule (RRP rule) requires that any contractor or maintenance staff who disturbs more than six square feet of lead paint, replaces windows, or does demolition while working in a pre-1978 building, child daycare, or school, must be Lead-Safe Certified (RRP certified renovator) and trained in lead safe work practices.*
- B. The lead remediation contractor and all personnel assigned to the project shall maintain current licenses as required by applicable State and Federal regulations.

#### 1.05 FILINGS AND SUBMITTALS

- A. The lead remediation contractor shall be responsible for securing any and all required permits for the work of these specifications and for paying all applicable fees.
- B. The lead remediation contractor shall submit the following materials to the Owner prior to starting the work, and shall provide copies of the materials at the job site:
1. Names of workers/supervisors assigned to the project
  2. Medical examination records for all workers/supervisors
  3. Respirator fit test records for all workers/supervisors

4. The contractor's respiratory protection plan
5. The contractor's site safety plan
6. Name and permits for waste hauler and disposal
7. Certificate of insurance
8. Copies of original training and refresher certificates for all workers/supervisors

1.06 APPLICABLE STANDARDS

- A. The lead regulations listed below are applicable to this project:
  1. 29 CFR 1926.62 - OSHA Lead Standard for the Construction Industry
  2. 40 CFR Parts 260-270 (RCRA) - EPA Regulations for Hazardous Wastes
  3. 40 CFR 745.80 to 745.88 and 745.220 to 745.229 - Toxic Substances Control Act (TSCA)
  4. 19a-111-1 thru 19a-111-11 – Connecticut Department of Public Health Lead Poisoning Prevention and Control Regulations
  5. CT DPH Publication – Lead Hazard Identification, Abatement and Hazard Remediation Protocol, December 1, 2008
  6. EPA's 2008 Lead-Based Paint Renovation, Repair and Painting Program Rule (as amended in 2010 and 2011)
- B. Federal regulations governing lead abatement are in a transitional state at this time. The contractor is responsible for compliance with all regulations in place at the time the work is carried out.
- C. If there is a conflict between these specifications and any of the regulations listed above, the contractor shall inform the Owner of any changes and conduct the work in accordance with the applicable regulations.
- D. The contractor shall comply with all other applicable City, state and federal requirements not specifically mentions in these specifications.

1.07 PROJECT RESPONSIBILITIES

- A. The contractor shall furnish all labor, services, materials, equipment, tools, and supplies necessary to complete the work in a professional and timely fashion.
- B. The RRP certified renovator shall provide the owner a copy of the EPA Renovate Right booklet.
- C. An industrial hygienist may be retained at the Owner's expense to monitor the work and will be retained to perform post-remediation testing services. If hired to monitor the work on a full time basis, the hygienist will be authorized by the Owner to stop or direct changes in work procedures if the safety of workers or building occupants is being compromised.

1.08 OWNER'S RESPONSIBILITIES

- A. The owner shall notify the historical society of the lead remediation project if the property is over fifty years old. Notification shall be sent to:

Connecticut Historical Commission/Preservation

59 South Prospect Street, Hartford, CT 06106  
Phone: (860) 566-3005 Fax: (860) 566-5078

- B The owner shall vacate the all remediation areas and provide unrestricted access to the required building areas.

## PART 2 – PRODUCTS AND MATERIAL

### 2.01 MATERIAL AND EQUIPMENT

#### A. PREPARATION

Prior to the start of work the contractor shall provide and maintain a sufficient quantity of materials and equipment to assure continuous and efficient work throughout the project. Do not start work unless the following items have been delivered on site and the contractor supervisor has submitted verification to the Owner to this effect:

1. Flame-resistant polyethylene sheeting 4 and 6 mil in clear, opaque and black shades, moisture resistant duct tape capable to continuously sealing polyethylene through project abatement duration, lumber, drywall and plywood for enclosure, posters, signs and notices.
2. Installation and plumbing hardware, shower stalls, hoses, drain pans, sump pumps and water storage drums or waste water filters.
3. Scrapers, brushes, brooms, staple guns, shovels, ladders and scaffolds of suitable height and length, water hose to reach all areas, airless spray equipment, and other hand tools, electric cords, electric power with ground fault interruption.
4. Impermeable drums and 6 mil polyethylene bags for lead containing waste; spray adhesive free of methylene chloride to seal seams on polyethylene material.
5. Respirators, disposable and recyclable protective clothing, goggles, gloves and footwear.

#### B. PACKAGING OF MATERIALS AND EQUIPMENT

Deliver materials to the job site in their original packaging or containers. Store all materials away from damage, weather, and contamination. Protect polyethylene from cold exposure. Do not store flammable material inside buildings. Inspect material regularly for damage, deterioration or contamination. Discard any damaged material. Discard waste per these specifications. Do not block or hinder use of site by employees and visitors of the site by placing or storing material in any unauthorized place.

### 2.02 ENCAPSULANTS

#### A. GENERAL

The use of encapsulants is not anticipated for this project.

## PART 3 – EXECUTION

### 3.01 REPAIRS PRIOR TO ABATEMENT

#### A. WATER LEAKS

Water leaks, if present, must be corrected prior to remediation regardless of the method of abatement. Uncorrected water leaks can cause encapsulating material to fail if the underlying lead painted surface deteriorates. Moisture can also cause paint on stripped surfaces (and unabated surfaces) to fail and expose lead residue that may remain on the substrate after stripping by heat, caustic chemicals, solvents or scraping.

B. HEATING SYSTEMS

Inadequate heat after remediation may lead to failure of encapsulants and paint. Therefore heating systems must be operational. Prior to remediation, forced air systems must be shut down and sealed to prevent transport of lead contamination from the abatement area to other areas of the residence.

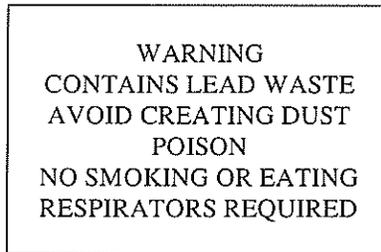
C. ELECTRICITY

Lack of electricity on the site can impede remediation because inadequate lighting and may limit the options that are available for on-site paint removal.

3.02 LEAD REMOVAL SITE PREPARATION

A. REQUIRED POSTING OF WORK AREA

1. The Owner shall notify all persons who have access to the work areas prior to the commencement of the lead remediation project. The work areas shall be vacated by tradesmen and unauthorized visitors prior to work area preparation, and shall remain off-limits until the re-occupancy criteria have been met.
2. All entrances to the work area shall be posted in accordance with 29 CFR 1910.1200(f) of OSHA's Hazard Communication Standard:



B. MATERIALS AND EQUIPMENT

All equipment (i.e. HEPA vacuums, etc.) shall be clean and free of any lead residue upon arrival and departure. When necessary, the equipment shall be covered with at least 1 layer of 6-mil polyethylene sheeting to prevent any inadvertent lead dust release associated with moving the items. All equipment shall be made available for inspection by the Owner as it is being delivered to the site. If it is determined that the equipment is contaminated with visible residue, the equipment will not be allowed on the work site and will be replaced with an equal and acceptable substitute.

C. UTILITIES

1. Prior to the commencement of lead remediation activities, all electrical power that may be affected by the remediation work shall be shut down and locked out by the Owner or Owner's representative. Access to safe temporary power and lighting shall be provided by the Owner in accordance with applicable codes. All electrical power for the work area shall be brought in from outside the work area through ground-fault interrupter at the source.
2. Hot and cold water for cleaning and decontamination facilities may be secured from the building supply at locations acceptable to the Owner.

3.02 DECONTAMINATION FACILITY

- A. A decontamination facility shall be installed or constructed prior to the commencement of lead remediation. The decontamination enclosure shall be accessible to the work area, and located inside or adjacent to the building where lead abatement work is taking place.
- B. The decontamination enclosure facility shall provide a changing area and a supply of water, soap, disposable towels, and a container for disposal of towels and other lead-contaminated wastes.

3.03 WORK AREA ENTRY/EXIT

- A. Before entering any work area, all workers and authorized visitors shall proceed to the changing area, remove all street clothing and store these items in lockers or on hooks. The individual shall then don respiratory protection and two layers of disposable coveralls with hoods and foot coverings.
- B. On exiting the work area, the worker or visitor shall remove the outer disposable suit, and proceed directly to the decontamination facility. In the decontamination area, the individual shall remove the protective clothing, and wash face and hands before leaving the area.

3.04 RESPIRATORY PROTECTION

- A. Without a current negative exposure assessment respiratory protection shall be worn by all individuals inside the work area from the initiation of the lead remediation project until the area has successfully passed the re-occupancy criteria. All respirators shall be provided by the contractor, and shall be NIOSH approved.
- B. The contractor shall conduct an exposure assessment in accordance with 29 CFR 1926.62, at the initiation of the operation to ascertain expected exposures during the project. The assessment must be completed in time to comply with the requirements which are triggered by exposure data or the lack of a "negative exposure assessment", and to provide information necessary to assure that all control systems planned are appropriate for that operation and will work properly.
- C. The contractor shall provide respirators that meet the minimum requirements, based on the initial exposure assessment and personal air monitoring results for the project.

3.05 PERSONAL AIR SAMPLING

- A. The lead contractor shall be responsible for the collection and analysis of personal air samples in accordance with OSHA requirements. Results of personal air sampling shall be posted at the job site within twenty-four hours of the time the sample collection was completed.

3.06 EXTERIOR LEAD WORK AREA PROTECTION

For all exterior lead areas where the entire substrate is to be enclosed, removed and replaced or the lead-based paint is to be completely removed down to the substrate, the contractor shall prepare the area as follows:

Restrict access to the work area by placing barrier tape around the perimeter and posting warning signs. A layer of 6-mil protective sheeting shall be placed under the work surfaces as space permits. The protective sheeting should be taped and/or stapled to the side of the building, and a curb should be built around the perimeter. All windows and doors within 20 feet of the work area must be closed and sealed with two layers of 6-mil plastic sheeting. Openings where removal must take place on them shall be covered from the

inside. All work area preparation is to conform to State, Local and Federal regulations.

Once the area has been set up, employ work procedures that result in an 8 hour Time Weighted Average (TWA) airborne lead level less than the OSHA Permissible Exposure Level (PEL). If the airborne lead exceeds this level, stop work immediately and mist the area with water to lower the airborne lead and revise work procedures to maintain the level within the required limit.

3.07 CLEANING AFTER LEAD-BASED PAINT REMEDIATION

Final cleaning of the work area shall take place a minimum of one (1) hour after all remediation activities have been completed in the work area as follows:

1. After remediation activities are completed, the entire work area shall be vacuumed and wet cleaned.
2. Once wet cleaning is completed the contractor shall remove the polyethylene covering from the surfaces of the work area and place directly into garbage bags and seal.
3. Wet wash the work area. Use household cleaner and water – clean all horizontal surfaces in the work area and then let the work area air dry.
4. HEPA Vacuum the entire work area once it has dried
5. Wet wash the work area again.

3.09 WASTE DISPOSAL

All waste generated by remediation activities shall be properly containerized and disposed of in accordance with all applicable State and Federal regulations/requirements.

3.10 FINAL INSPECTION

- A. The Owner's hygienist shall conduct a visual inspection of the work areas after all of the lead-containing materials have been remediated and final cleaning has been completed.
- B. Post-remediation visual inspections will be performed for all exterior work areas.

END OF SECTION

LEAD PROJECT DESIGNER LICENSE

Print Lookup Details

Page 1 of 1



State of Connecticut

**Lookup Detail View**

**Name**

<b>Name</b>
ROBERT C BROWN

**License Information**

License Type	License Number	Expiration Date	Granted Date	License Name	License Status	Licensure Actions or Pending Charges
Lead Planner/Project Designer	1022	06/30/2016	06/30/1996	ROBERT BROWN	ACTIVE	None

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