

Company Name – _____

REQUEST FOR RESPONSE

BID NO: 5230

Department of Public Works Project No: DPW12-06



SIGOURNEY SQUARE PARK IMPROVEMENTS

HARTFORD, CT

DEADLINE: 2:00 P.M., THURSDAY, May 10, 2012

Susan Sheppard
Principal Administrative Analyst
smsheppard@hartford.gov

INVITATION TO RESPOND

PROJECT NUMBER:	BIDNO: 5230
CONTRACT NUMBER	DPW12-06
DEADLINE :	2:00 PM, MAY 10, 2012
BID TITLE :	SIGOURNEY SQUARE PARK IMPROVEMENTS
SITE LOCATION:	SIGOURNEY SQUARE PARK- HARTFORD, CONNECTICUT

The City of Hartford is soliciting proposals for the [Sigourney Square Park Improvements](#) Project. This Contract is for demo, prep and coord. of [new playground, safety surfacing and spraypool \(all purchased under Owner's separate contract\), related accessible walkways and seating areas, repainting of existing basketball courts and fencing, and landscaping.](#)

Below is an outline of some of the requirements that apply specifically to this project. These requirements are discussed in greater detail in Section 3, General Information.

BID INFORMATION (if not attached) is available upon receipt of this invitation over the Internet at <http://das.ct.gov/cr1.aspx?page=12>. Drawings associated with this bid, if not included within the bid documents can be viewed at <http://www.merrittgraphics.com/>. Click on the PlanWell link, select "Public PlanRoom", then select this project. Hard copies may be purchased from Merritt Graphics. Fees to purchase sets are non-refundable and will be posted on the site.

Additionally, plans may be ordered by calling Merritt Graphics at 800.344.4477 and requesting an order form.

Adobe Acrobat reader may be required to view some of this information. If you do not have this software you may download it for free from Adobe. A link to the Adobe site is provided on the internet bid page.

Businesses without internet access equipment, may contact the Procurement Services Department at 860.757.9610 for any Bid information. Our fax number is 860.722.6607.

A PRE-BID Conference will be held on Wednesday, May 2, 2012 at 10:00 A.M. at the playground at Sigourney Square Park. Bidding Contractors are requested to attend this pre-bid conference. Contact Susan Shepard at 757-9616 for further information.

Bidders will be required to provide:

- [10%](#) bid bond, cashier's or certified check with your response (see Standard Instructions). NOTE: The City of Hartford is now providing contractors with the [option](#) of submitting an electronic Bid Bond through the Surety2000 website.

Surety 2000 is an Internet-based surety processing, verification and security system, developed in cooperation with the surety industry. Contractors and Surety Agents may contact Surety 2000 at: 1-800-660-3263 or by going to www.surety2000.com for more information.

- Performance and Payment bonds for 100% of the project upon award [if the contract value exceeds \\$50,000.00](#) (see Standard Instructions).
- Copies of current Federal, State and City certifications as applicable.

SPECIAL NOTES:

- A. Questions related to this project must be received in writing 72 hours in advance of the response submittal deadline. We strongly recommend that prospective Candidates review specifications early in the solicitation process and submit all questions at one time. Written questions are to be sent to the buyer whose name appears on the invitation via email.
- B. A Bidder, as a condition of receiving the award of this contract, will be required to comply with Chapter 2, Article X, (Equal Employment Opportunity) of the Municipal Code and the "Greater Hartford Affirmative Action Plan".
- C. A delinquent tax status will result in disqualifying a Bidder.
- D. A Bidder receiving an award will be required to provide proof of its current standing with the Connecticut Secretary of State's Office (see Response Section, Bidder's Qualifications).
- E. The DAS Contractor Prequalification Program (Public Act 03-215) requires all contractors to prequalify "before they can bid on any construction, alteration, remodeling, repair or demolition of any public building (does not apply to road construction), for work by the state or a municipality, estimated to cost more than \$500,000 and which is funded in whole or in part with state funds. This project is subject to the state prequalification provisions if indicated in the "Construction Contract Summary Sheet" located at the front of this document. Information and application forms related to this program are located on the internet at: <http://das.ct.gov/cr1.aspx?page=12>.

PLAN HOLDERS LISTS are available from Merritt Graphics' PlanWell site located at <http://www.merrittgraphics.com/>. Lists of Bidders having picked up bid documents will not be provided over the phone.

If, after review of the bid documents, your firm is interested in performing the services specified, provide the information and documentation requested, sign and return the complete document, along with your detailed response, to Procurement Services by the due date. We would appreciate the courtesy of promptly advising us if you do not intend to respond. For any questions contact Susan Sheppard @ 860.757.9616 or email @ smsheppard@hartford.gov.

CONSTRUCTION PROJECT SUMMARY SHEET

RFR NUMBER:	BIDNO: 5230
CONTRACT NUMBER	DPW12-06
BID TITLE :	SIGOURNEY SQUARE PARK IMPROVEMENTS

ESTIMATED CONSTRUCTION COST: \$200,000

CONTRACT TYPE: OPEN COMPETITIVE WITH W/MBE % GOAL
 SMALL MINORITY BUSINESS ENTERPRISE SET ASIDE
 SMALL CONTRACTOR SET ASIDE

STATE OF CONNECTICUT PREQUALIFICATION REQUIRED: YES (...) NO

PERCENTAGE OF MBE/WBE PARTICIPATION REQUIRED: 15%

FEDERAL WAGE RATE REQUIREMENTS:(...) YES NO

STATE WAGE RATE REQUIREMENTS: YES (...) NO

HARTFORD BASED BIDDER ADVANTAGE: APPLICABLE (...) NON-APPLICABLE

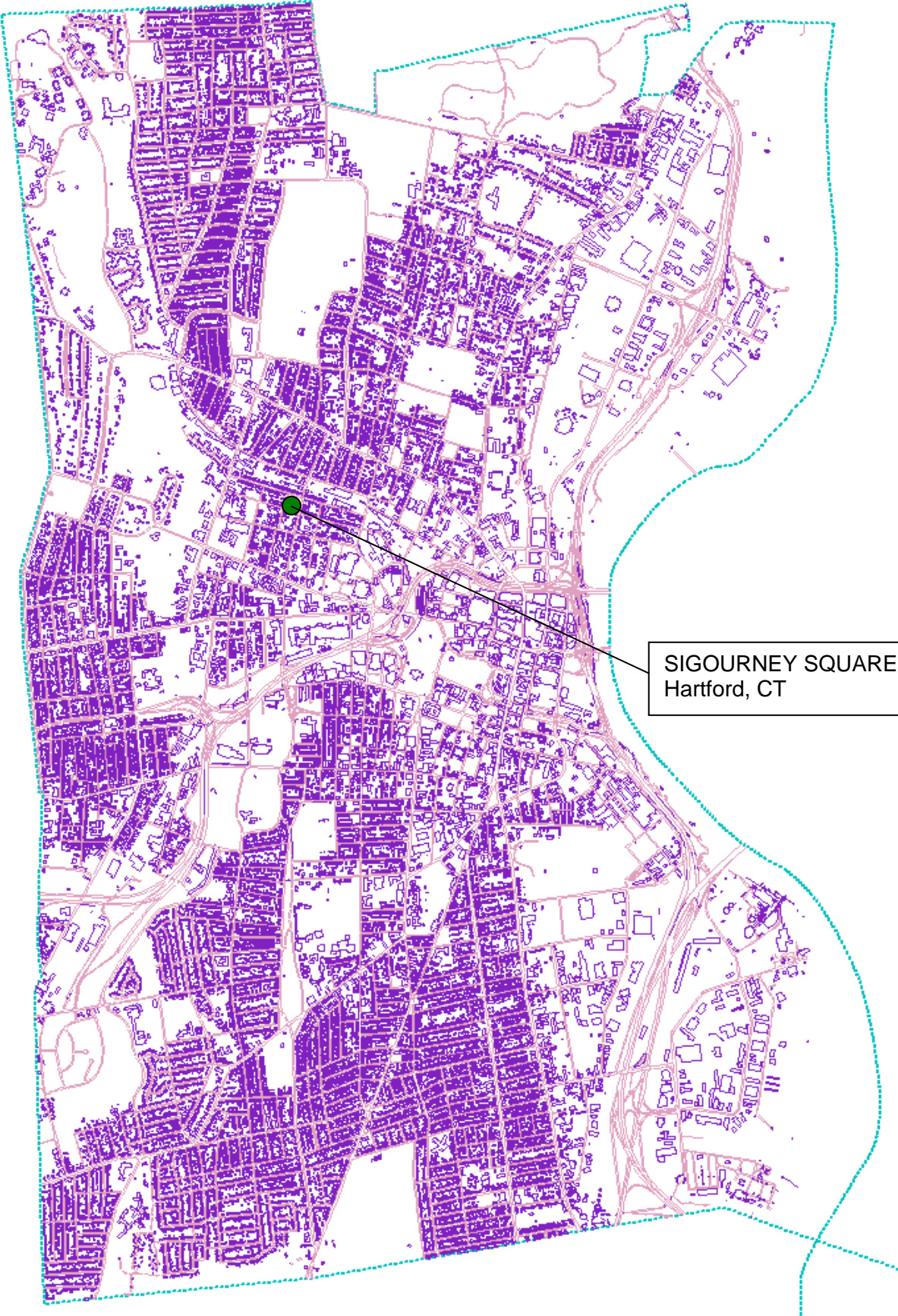
PLANS AVAILABLE AS PART OF BID DOCUMENTS: YES NO

SPECIAL INSURANCE REQUIREMENTS: YES NO

CALENDAR DAYS ALLOWED FOR CONTRACT WORK: WORK MUST BE SUBSTANTIALLY COMPLETE WITHIN 120 DAYS.

LIQUIDATED DAMAGES FOR LATE COMPLETION: \$1,000 PER DAY

DISCLAIMER: THIS SHEET IS PROVIDED FOR GENERAL INFORMATION ONLY AND IS SOLELY INTENDED TO ASSIST BIDDERS IN UNDERSTANDING THE GENERAL SCOPE OF WORK. BIDDERS MUST REFER TO SPECIFIC CONTRACT SECTIONS FOR DETAILS. IN THE EVENT OF A CONFLICT, THE PROJECT AND CONTRACT SPECIFICATIONS SHALL TAKE PRECEDENCE OVER THIS CONTRACT SUMMARY SHEET.



SIGOURNEY SQUARE PARK
Hartford, CT

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Invitation To Respond

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SECTION 1.0

RESPONSE FORMS

Responses are to be delivered to:

**Hartford City Hall, Procurement Services,
550 Main Street, Suite 100
Hartford, Ct. 06103**

no later than the deadline date and time. Be sure to indicate the request number, name, and opening time in the spaces provided. Mark the original response package as "ORIGINAL" on the front cover. See Section 3.1 for more information.

Response Check List

(NOTE: This Check List may not contain every response item for every solicitation. It is the Responder's responsibility to ensure submittal of all required response information.)

- Response Signature form completed (Section 1.1)
- Response pricing completed (Section 1.2)
- Statement of Qualifications completed (Section 1.3)
- Certified by the City as an Equal Employment Opportunity Employer
http://www.hartford.gov/human_relations/ohr2.0/MWBE_Certification.htm
- Current in taxes and other fees owed to the City?
- Acknowledged Addenda (Section 1.1)
- Satisfy Living Wage requirements for service contracts where local labor pool is used
<http://www.hartford.gov/purchasing/Documents.htm>
- Bid bond (if required in the Invitation To Respond)
- Current with State's Pre-Qualification Requirements?
http://www.das.state.ct.us/Purchase/redirect_Prequal.asp
- Satisfy the Minority Utilization requirement (indicated on the Summary page, usually page 2 of the bid documents) and completed the forms (found at the end of Section 1)
- The electronic files, from which you printed your hard copy proposal, are to be emailed to the buyer within one hour **AFTER** the deadline for submitting hard copy responses. See section 3.1 E

Electronic Bid Bonds

* If a bid bond is required and you choose to submit an electronic bid bond, please be advised that upon signing your bid with the digital signature you are also signing the Bid Bond. All legal obligations associated with the bid bond will be validated upon signing of the bid with the digital signature.

**1.1 RESPONSE SIGNATURE FORM – Sigourney Square Park Improvements –
RFR # 5230, DPW Project # DPW12-06**

Company Name -		
Address -		
Phone -	Fax -	Email -
Manager -		Fed ID#

The undersigned hereby declares that he/she or they are thoroughly familiar with the specifications, the various sites, the City’s requirements, and the objectives for each element of the project item or service and understands that in signing this proposal all right to plead any misunderstanding regarding the same is waived. 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.

The undersigned hereby declares that no reason or persons other than those named herein are interested in this proposal, which is made without any connection with any other person or persons making any proposal for the same work and is in all respects fair and without collusion or fraud; that no person acting for or employed by the City of Hartford is directly or indirectly interested therein, or in the supplies or works to which it relates, or will receive any part of the profit or any commission there from in any manner which is unethical or contrary to the best interest of said City of Hartford.

The undersigned additionally declares that they are not debarred or suspended, or otherwise excluded from, or ineligible for, participation in City of Hartford, State of Connecticut or federally funded projects (Executive Order 12549).

The undersigned certifies under penalty of false statement that the information provided in this response is true.

Delivery / Initiate Services:		Calendar days after receipt of contract.	
Bid Security provided by	For electronic bonds enter bond number otherwise check the appropriate box	Electronic Bond #	<input type="checkbox"/> Bond (hard copy)
			<input type="checkbox"/> Certified Check
EEO Certification Status (check one) <small>See General Information for Preparing a Response paragraph 3.10</small>		<input type="checkbox"/> Current and on file	<input type="checkbox"/> EEO form attached
DAS Prequalified Contractor? (non highway construction projects >\$500,000 see: http://www.das.state.ct.us/)		<input type="checkbox"/> Certificate attached	<input type="checkbox"/> Update Statement attached
Insurance Agent Name -		Tel.-	
Submitted by -			
Printed name and title		Date	

(Authorized Agent of Company)

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	.

1.2 RESPONSE PRICING

BASE BID and ALTERNATES

BASE BID as shown on the contract drawings and in the specifications. (Includes Owner Contingency Allowance of \$20,000)		\$
Base Bid in words (if submitting a handwritten response)		
Alternate #1	Preparation of area for Swing Set and Climbing Play Equipment	\$
Alternate #2	Pavers at Sigourney/Ashley and Sigourney/Sargeant Entrance	\$
Alternate #3	Repair and painting of fencing surrounding park	

1.3 STATEMENT OF 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 - _____ DUNS Number: _____
2. Number of personnel employed Part time - _____, Full time - _____,

3. List six contracts of this type/size your firm has completed within the last three years:

Project	Date	Contact Person	Phone No.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.
.	.	.	.

4. DAS CONTRACTOR PREQUALIFICATION	You certify that there has been no substantial change in your financial position or corporate structure since your most recent prequalification certificate was issued or renewed, other than those changes noted in the update statement (attached).	YES	NO
		<input type="checkbox"/>	<input type="checkbox"/>

5. ORGANIZATIONAL STRUCTURE OF BIDDER (check which applies)	<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)

6. 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 See General Information for Responding paragraph 3.17	<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 <input type="checkbox"/>	No <input type="checkbox"/>
	<u>Out-of -State corporations</u> - Do you have a valid license to do business in the State of Connecticut? If a license is not required for the services being provided have you filed with the Connecticut Secretary of State?	Yes <input type="checkbox"/>	No <input type="checkbox"/>

7. 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 <u>if different from what has been indicated on the response form:</u>				
Business Name	.			
Address	.			
City	.	State	.	Zip
Name of Agent	.			

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.

8. Your company may be asked to submit the following information relative to your company's financial statements prior to receiving an award. This information will not be part of the public bidding record and will remain confidential if it is submitted via an email that requests confidentiality or it hand delivered, in a separate sealed envelop marked "Confidential."

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)

9. Taxpayer's Identification Number:

Respondents must provide their Taxpayer Identification Number on the response form (Fed ID#). Award recipients, whether an individual, proprietor, partnership or a non-profit corporation or organization must file the Internal Revenue Service Form W-9, Request for Taxpayer Identification Number and Certification with the City. Copies of this form are available at: <http://www.hartford.gov/purchasing/documents.htm>

Additional information may be requested subsequent to your responding to this solicitation.

1.4 SUBCONTRACTOR INFORMATION

Forms labeled Section 1.4 are provided below to accommodate the Base Bid (or Lump Sum) and alternates (if called for) in this Request for Response (RFR).

The information provided below applies to: (Check one box as appropriate)

Base Bid	Alternate 1	Alternate 2	Alternate 3	Alternate 4	Alternate 5
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.4 SUBCONTRACTOR INFORMATION

If subcontractors are to be used, indicate the firm name, address, portion or section of work the subcontractor will be performing, the subcontract value, percentage of base bid and if the subcontractor is a City certified W/MBE business.

Bidder agrees to subcontract the portion of the work stipulated below to W/MBE businesses. A copy of the contract between the bidder and the subcontractor will be required prior to award of the contract.

Note: The provisions of section 3 and 4 of public act 03-215, Prequalification now applies to subcontractors.

Trade or Nature of Work	Business Name and Address	W/MBE √	% of Base Bid	Subcontract \$ Value
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
TOTAL SUBCONTRACT VALUE				
TOTAL W/MBE SUBCONTRACT VALUE				

Subcontract % to total project %

W/MBE Subcontract % to total project %

Additional information may be requested subsequent to your responding to this bid request.

The information provided below applies to: (Check one box as appropriate)

Base Bid	Alternate 1	Alternate 2	Alternate 3	Alternate 4	Alternate 5
<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Trade or Nature of Work	Business Name and Address	W/MBE √	% of Base Bid	Subcontract \$ Value
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
TOTAL SUBCONTRACT VALUE				
TOTAL W/MBE SUBCONTRACT VALUE				

Subcontract % to total project %

W/MBE Subcontract % to total project %

Additional information may be requested subsequent to your responding to this bid request.

The information provided below applies to: (Check one box as appropriate)

Base Bid	Alternate 1	Alternate 2	Alternate 3	Alternate 4	Alternate 5
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

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Trade or Nature of Work	Business Name and Address	W/MBE √	% of Base Bid	Subcontract \$ Value
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
TOTAL SUBCONTRACT VALUE				
TOTAL W/MBE SUBCONTRACT VALUE				

Subcontract % to total project %

W/MBE Subcontract % to total project %

The information provided below applies to: (Check one box as appropriate)

Base Bid	Alternate 1	Alternate 2	Alternate 3	Alternate 4	Alternate 5
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

1.4 SUBCONTRACTOR INFORMATION

If subcontractors are to be used, indicate the firm name, address, portion or section of work the subcontractor will be performing, the subcontract value, percentage of base bid and if the subcontractor is a City certified W/MBE business.

Bidder agrees to subcontract the portion of the work stipulated below to W/MBE businesses. A copy of the contract between the bidder and the subcontractor will be required prior to award of the contract.

Note: The provisions of section 3 and 4 of public act 03-215, Prequalification now applies to subcontractors.

Trade or Nature of Work	Business Name and Address	W/MBE √	% of Base Bid	Subcontract \$ Value
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
		<input type="checkbox"/>		
TOTAL SUBCONTRACT VALUE				
TOTAL W/MBE SUBCONTRACT VALUE				

Subcontract % to total project %

W/MBE Subcontract % to total project %

1.5. Bidder's EEO Status and Report

As a condition of doing business with the City the selected respondent must be certified by the City as an Equal Employment Opportunity Employer. Certifications must be renewed annually. If your firm is not currently certified you may obtain the required forms on-line at: <http://www.hartford.gov/purchasing/documents.htm> and submit completed forms with your response. To check the current status of your EEO certification contact Eloy Toppin (860) 757-9788.

Response Summaries:

Response summaries will be available over the Internet, to those that responded, at http://www.das.state.ct.us/Purchase/Portal/Portal_Home.asp. This summary information will be available anytime after 5:00 PM on the opening date and time. Results will not be provided over the phone.

TECHNICAL SPECIFICATIONS

**CITY OF HARTFORD
SIGOURNEY SQUARE PARK IMPROVEMENTS**

01020 - ALLOWANCES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. The General Documents, as listed on the Table of Contents, and applicable parts of Division 1, General Requirements, shall be included in and made a part of this Section.
- B. Examine all Contract Documents and all other Sections of the Specifications for requirements therein affecting the work of this trade.

1.2 GENERAL PROVISIONS

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

1.3 SUMMARY

- A. This Section includes administrative and procedural requirements governing allowances.
 - 1. A Contingency Allowance is hereby established. In all cases, this allowance includes installation if applicable. Allowance has been established in lieu of additional requirements. Additional requirements will be issued by Contingency Authorization (CA).
- B. Types of allowances include the following:
 - 1. Contingency allowances.

1.4 CONTINGENCY ALLOWANCES.

- A. Use the contingency allowance only as directed by Owner's Representative for Owner's purposes and only by Contingency Authorizations that indicate amounts to be charged to the allowance.
- B. Contractor's overhead, profit and related costs for products and equipment ordered by Owner under the contingency allowance area included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, taxes, insurance, equipment rental, bond and similar costs.
- C. Contingency Authorizations authorizing use of funds from the contingency allowance will include Contractor's related costs and reasonable overhead and profit margins.
- D. At Project Closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

**CITY OF HARTFORD
SIGOURNEY SQUARE PARK IMPROVEMENTS**

01020 - ALLOWANCES

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

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

3.3 SCHEDULE OF ALLOWANCES

- A. Contingency Allowance No. 1: Include \$20,000.00 (Twenty Thousand) as a contingency allowance for this project.

END OF SECTION 01020

CITY OF HARTFORD
SIGOURNEY SQUARE PARK IMPROVEMENTS

01100 - SUMMARY

SECTION 01100 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

1.3 WORK COVERED BY CONTRACT DOCUMENTS

- A. Project Identification: Sigourney Square Park Improvements
 - 1. Project Location: Sigourney Square Park, Hartford
- B. Owner: City of Hartford
- C. Landscape Architect: TO Design, LLC
- G. The Work consists of the following:
 - 1. The Work includes demolition of existing pavements, benches and play equipment, installation of benches, concrete pads, pavers, repair and painting of basketball courts and repair and maintenance of fence surrounding park.
 - 2. Playground equipment, splash pad equipment, curbing, curb ramps, play surfacing and splash pad surfacing shall be installed by others.

1.4 TYPE OF CONTRACT

- A. Project will be constructed under a contract for general site work. Additional contracts will be issued for installation of play equipment, splash pad and associated features.

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01100 - SUMMARY

1.5 WORK PHASES

- A. The Work shall be conducted in **1** phase. Contractor to coordinate with play equipment and splash pad installer.

1.6 USE OF PREMISES

- A. Maintain access to existing walkways,, and other adjacent occupied or used facilities. Do not close or obstruct walkways, or other occupied or used facilities without written permission from Owner and authorities having jurisdiction.

1.7 WORK RESTRICTIONS

- A. On-Site Work Hours: Work shall be generally performed during normal business working hours of 7:00 a.m. to 5:00 p.m., Monday through Friday, except otherwise indicated.

1.8 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: The Specifications are organized into Divisions and Sections using the 16-division format and CSI/CSC's "MasterFormat" numbering system.

- 1. Section Identification: The Specifications use Section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete because all available Section numbers are not used. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of Sections in the Contract Documents.
- 2. Division 1: Sections in Division 1 govern the execution of the Work of all Sections in the Specifications.

- B. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

- 1. Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.
- 2. Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the Section Text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.
 - a. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

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01100 - SUMMARY

1.9 PERMIT FEES

- A. Permit Fees are waived except for the State Education Fee of \$.22/\$1,000 and the \$25 Permit Application Fee.

PART 2 - PRODUCTS

2.1 PROJECT SIGN

- A. The contractor shall erect a Project Sign located so as not to require relocation during construction. Proposed location and proposed text and face of sign shall be approved by the Owner's Representative. Contractor shall submit a Shop Drawing illustrating scaled image of sign face for approval by Owner's Representative. Sign shall be 8 feet long by 6 feet high with the bottom of the sign mounted at 4 feet above the adjacent grade and secure to the ground with pressure treated 4 x 4 posts. Text and graphic shall include:
1. City of Hartford
 2. Mayor Pedro E. Segarra
 3. The City of Hartford Seal
 4. Project Name
 5. Owner's Name
 6. The name of the Contractor
 7. The name of the Landscape Architect
- B. Sign material shall be exterior grade plywood.

PART 3 - EXECUTION (Not Used)

END OF SECTION 01100

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01230- ALTERNATES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

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

1.3 DEFINITIONS

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

1.4 PROCEDURES

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

PART 2 - PRODUCTS (Not Used)

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01230- ALTERNATES

PART 3 - EXECUTION

3.1 SCHEDULE OF ALTERNATES

- A. Alternate No. 1 – Preparation of area for Swing Set and Climbing Play Equipment
- B. Alternate No. 2 – Pavers at Sigourney/Ashley and Sigourney/Sargeant Entrance
- C. Alternate No. 3 – Repair and painting of fencing surrounding park

END OF SECTION 01230

CITY OF HARTFORD
SIGOURNEY SQUARE PARK IMPROVEMENTS

02000 - GENERAL SITEWORK

SECTION 02000 – SITEWORK (GENERAL)

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

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

1.2 REFERENCES

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

1.3 DESCRIPTION

- A. The Work includes demolition of existing pavements, benches and play equipment, installation of benches, concrete pads, pavers, repair and painting of basketball courts and repair and maintenance of fence surrounding park.

1.4 QUALITY ASSURANCE

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

1.5 GENERAL JOB CONDITIONS

- A. Locate and identify existing underground and overhead services and utilities within contract limit work areas. Provide adequate means of protection of utilities and services designated to remain. Repair utilities damage during sitework operations at Contractor's expense.
- B. Protect and maintain all existing utility appurtenances and improvements except items designated for removal.
- C. When uncharted or incorrectly charted underground piping or other utilities and services are encountered during sitework operations, notify the applicable utility company immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active service operation.
- D. Locate, protect and maintain bench marks, monuments, control points and project engineering reference points. Re-establish disturbed or destroyed items at Contractor's expense.

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02000 - GENERAL SITEWORK

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

1.6 TRAFFIC MAINTENANCE, SAFETY AND PROTECTION

- A. The contractor shall provide for maintenance and protection of traffic, including permits and plans as required per the City of Hartford.
- B. Provide, place, move, maintain and dismantle such barricades, warning signs and lights as necessary to adequately protect the work and provide for public safety.
- C. Furnish flagmen or police as required for the proper direction and control of traffic during the construction period.

1.7 STANDARD SPECIFICATIONS

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

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02000 - GENERAL SITEWORK

PART 2 – PRODUCTS

2.1 MATERIALS AND EQUIPMENT

- A. As selected by Contractor, except as indicated

PART 3 – EXECUTION

3.1 PREPARATION

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

END OF SECTION 02000

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02230 – SITE CLEARING

SECTION 02230 - SITE CLEARING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:

1. Grass to remain.
2. Removing existing grass.
3. Clearing and grubbing.
4. Removing pavement.

- B. Related Sections include the following:

1. Division 2 Section "Lawns and Grasses and Exterior Plants" for finish grading including preparing and placing planting soil mixes and testing of topsoil material.
2. Division 2 Section "Erosion Control" for soil stabilization.

1.3 DEFINITIONS

- A. Topsoil: Natural or cultivated surface-soil layer containing organic matter and sand, silt, and clay particles; friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches (50 mm) in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.

- B. Tree Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and defined by the drip line of individual trees or the perimeter drip line of groups of trees, unless otherwise indicated.

1.4 MATERIAL OWNERSHIP

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

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02230 – SITE CLEARING

1.5 SUBMITTALS

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

1.6 PROJECT CONDITIONS

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

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION

3.1 PREPARATION

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

3.2 CLEARING AND GRUBBING

- A. Remove obstructions, grass, and other vegetation to permit installation of new construction.
 - 1. Cut minor roots and branches of trees indicated to remain in a clean and careful manner where such roots and branches obstruct installation of new paving.
 - 2. Grind stumps and remove roots, obstructions, and debris extending to a depth of 18 inches (450 mm) below exposed subgrade.
 - 3. Chip removed tree branches and dispose of off-site.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

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02230 – SITE CLEARING

1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches (200 mm), and compact each layer to a density equal to adjacent original ground.

3.3 SITE IMPROVEMENTS

- A. Remove existing above- and below-grade improvements as indicated and as necessary to facilitate new construction.
- B. Remove slabs, paving, curbs, gutters, and aggregate base as indicated.
 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut length of existing pavement to remain before removing existing pavement. Saw-cut faces vertically.

3.4 DISPOSAL

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

END OF SECTION 02230

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02270 – EROSION CONTROL

SECTION 02270 – EROSION CONTROL

PART 1 – GENERAL

1.1 RELATED DOCUMENTS

- A. The General Provisions of the Contract, including the General Conditions and Supplementary General Conditions apply to work specified in this Section.

1.2 SUMMARY

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

1.3 REFERENCES

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

1.4 SUBMITTALS

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

1.5 PROJECT CONDITIONS OR SITE CONDITIONS

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

CITY OF HARTFORD
SIGOURNEY SQUARE PARK IMPROVEMENTS

02270 – EROSION CONTROL

PART 2 - PRODUCTS

2.1 MATERIALS

A. Silt Fences:

1. Filter Fabric Fence: The fabric used shall be a non-woven material and a minimum of 30-inches high, fastened to stakes, and be CT DOT approved.
2. Posts: Provide wood or metal posts of the length shown in the Contract Documents and of sufficient strength to support the wire backing and filter fabric.

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

C. Siltsack

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

PART 3 - EXECUTION

3.1 INSTALLATION

A. General:

1. Comply with Form 816, Section 2.10.

B. Silt Fences:

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

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02270 – EROSION CONTROL

C. Hay Bales:

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

D. Siltsack

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

3.2 MAINTENANCE AND CLEANING

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

B. Erosion Control Supervisor:

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

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

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

3.3 ADJUSTMENTS AND CLEANUP

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

END OF SECTION 02270

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02332 - GRAVEL

SECTION 02332 – GRAVEL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This section includes the following:
 - 1. Sub -base courses for paving.
- B. Related sections:
 - 1. Division 2 Section “Site Concrete” for sidewalks.

1.3 REFERENCES

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

1.4 SUBMITTALS

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

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Gravel/Aggregate: Conform to Article M.02.03 of Form 816, except that gravel should conform to grading "A”.

PART 3 - EXECUTION

3.1 PRE-INSTALLATION REQUIREMENTS

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

3.2 INSTALLATION

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02332 - GRAVEL

A. As pavement base

1. Conform to Article 3.02.03 of Form 816.
2. Gravel shall be spread upon the prepared, compacted sub-grade to such depth that this course will be to the specified depth after compaction.
3. If after the material has been spread and shaped, it is found that additional binder is required, it shall be furnished and applied as necessary.
4. The material shall then be shaped, wetted and compacted with a power roller weighing not less than ten tons or an equivalent vibratory roller until thoroughly compacted.
5. The compacting and wetting shall continue until all voids are filled after which this course may be left to dry. Compacting shall continue until this course is thoroughly compacted.
6. Compact each lift to 95 percent of modified AASHTO laboratory density (ASTMD-1557, Method C).

END OF SECTION 02332

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02510 – WATER DISTRIBUTION

SECTION 02510 – WATER DISTRIBUTION

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 water-distribution piping and specialties outside the building for the following:
 - 1. Water services.

1.3 REFERENCES

- A. Form 816: State of CT Dept. of Transportation Standard Specifications for Roads, Bridges and Incidental Construction.
- B. MDC Water Services Standard Details Manual, Revised 2003.

1.4 DEFINITIONS

- A. Water Service: Exterior domestic-water piping.

1.5 SUBMITTALS

- A. Product Data: For the following:
 - 1. Piping and fittings
 - 2. Valves and accessories
 - 3. Restraint

1.6 QUALITY ASSURANCE

- A. Regulatory Requirements:
 - 1. Comply with requirements of MDC Water Services Standard Details Manual, Revised 2003. Include backflow prevention.
 - 2. Comply with standards of MDC Water Services Standard Details Manual, Revised 2003 for potable-water-service piping, including materials, installation, testing, and disinfection.
- B. Piping materials shall bear label, stamp, or other markings of specified testing agency.

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02510 – WATER DISTRIBUTION

1.7 DELIVERY, STORAGE AND HANDLING

- A. Preparation for Transport: Prepare valves according to the following:
 - 1. Ensure that valves are dry and internally protected against rust and corrosion.
 - 2. Protect valves against damage to threaded ends and flange faces.
 - 3. Set valves in best position for handling. Set valves closed to prevent rattling.
- B. During Storage: Use precautions for valves according to the following:
 - 1. Do not remove end protectors unless necessary for inspection; then reinstall for storage.
 - 2. Protect from weather. Store indoors and maintain temperature higher than ambient dew-point temperature. Support off the ground or pavement in watertight enclosures when outdoor storage is necessary.
- C. Deliver piping with factory-applied end caps. Maintain end caps through shipping, storage, and handling to prevent pipe-end damage and to prevent entrance of dirt, debris, and moisture.
- D. Protect stored piping from moisture and dirt. Elevate above grade. Do not exceed structural capacity of floor when storing inside.
- E. Protect flanges, fittings, and specialties from moisture and dirt.

1.8 PROJECT CONDITIONS

- A. Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
 - 1. Notify Architect not less than two days in advance of proposed utility interruptions.
 - 2. Do not proceed with utility interruptions without Architect's written permission.

1.9 COORDINATION

- A. Coordinate connection to water service with The MDC.

PART 2 - PRODUCTS

2.1 COPPER TUBE AND FITTINGS

- A. Soft Copper Tube: ASTM B 88, Type K, water tube, annealed temper.
 - 1. Per MDC Specifications

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02510 – WATER DISTRIBUTION

2.2 CURB STOP

- A. AWWA, C800, per MDC Approved Materials List.

2.3 GATE VALVE ACCESSORIES AND SPECIALTIES

- A. Curb Box; per MDC Approved Materials List.

PART 3 - EXECUTION

3.1 EARTHWORK

- A. Refer to Division 2 Section "Earthwork" for excavating, trenching, and backfilling.

3.2 PIPING INSTALLATION

- A. Install soft copper tubing per MDC specifications.

3.3 RESTRAINT INSTALLATION

- A. Install restraint for tees, bends, and valves.

3.1 FIELD QUALITY CONTROL

- A. Piping Tests: Conduct piping tests before joints are covered and after thrust blocks have hardened sufficiently. Fill pipeline 24 hours before testing and apply test pressure to stabilize system. Use only potable water.
- B. Hydrostatic Tests: Per MDC Requirements.

3.2 IDENTIFICATION

- A. Install continuous underground detectable warning tape during backfilling of trench for underground water-service piping. Locate below finished grade, directly over piping. See Division 2 Section "Earthwork" for underground warning tapes.

3.3 CLEANING

- A. Clean and disinfect water-distribution piping per MDC Requirements.

END OF SECTION 02510

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02743 – ACRYLIC SURFACE SYSTEM

I. 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 SCOPE OF WORK

- A. This specification covers the installation of acrylic surface system over existing pavement surfaces.
- B. Courts shall be cleaned using a stiff bristle broom and gas powered blower or water based pressure spray unit capable of generating 2500 psi at the nozzle tip, to remove all dirt and debris.
- C. The work to be performed under this specification includes all labor, equipment, materials and supplies necessary for the repair of all cracks and the installation of the basketball court surfaces.

1.3 SUBMITTALS

- A. Manufacturers data for:

- 1. Primer
- 2. Acrylic surface color coating system
- 3. Line primer
- 4. Line paint

- B. Samples of Color Coating (4)

0.1 QUALITY ASSURANCE

- . Installer Qualification: Engage an experience installer who has at least five years experience and has completed at least five color coating projects of similar scope, with a successful record.
- B. Single Source Responsibility: Provide all products from a single source.
- C. Samples: The Contractor shall submit (4) samples of the color coating before starting the work. Samples shall be labeled with the name of the contract, contractor, manufacturer and product name. The samples shall represent the full range of color and texture. Color coating used on the work shall conform to the approved sample.

PART 2 - PRODUCTS

2.1 COURT SURFACE MATERIAL

- A. Court Surfacing Materials shall be:

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1. Novacrylic, as manufactured by Nova Sports U.S.A., 6 Industrial Rd., Bldg. #2., Milford, MA 01757. 800-USA-NOVA

- B. All coatings shall be pure acrylic, containing no asphaltic or tar emulsions, nor any vinyl, alkyd or non-acrylic resins. The color system shall be factory-mixed compounds requiring only the addition of water at the jobsite except for the addition of sand to Novasurface. All materials shall be delivered to the jobsite in sealed containers with the manufacturer's label affixed.

PART 3 - EXECUTION

3.1 APPLICATION

- A. Contractors must notify the Landscape Architect of all applications, 48 hours prior to installation.

All cracks shall be repaired using Novacrylic:

CRACKS LESS THEN ½ INCH WIDE

1. Clean crack so that it is free of all vegetation and debris. Remove all loose pavement from crack.
2. Install Backer Rod (must be wider than crack) into crack – top of rod 3/16 inch below surface or fill crack with clean sand within 3/16 inch of surface.
3. Using a putty knife, squeegee rubber or similar tool, fill crack to refusal with Novacaulk. It is important to exert some pressure when placing Novacaulk into the void set. Apply Novacaulk #2 three inches wider than the crack on both sides to form a bridge and taper to a featheredge. Let this dry completely – this will shrink.
4. Apply a second coat of Novacaulk #2 with fiber in the same manner.
5. Allow this repair to dry and coat with Novacrylic color system.

CRACKS OVER ½ INCH WIDE

1. Prime area with 1 part Novabond mixed with 1 part water. This will be applied with a brush, roller or spray. Allow to dry.
2. Dry-mix 100 lb bag of sand with 1.5 gallons Portland cement. Take enough mixture out of dry material to be used in a thirty-minute period. Add undiluted Novabond and mix to a trowel consistency. For deep patches, use course sand. For very deep patches, use small stones. This patch should be rough, not smooth. After path is set, seal with a coat of Novacaulk or Novasurface.

- B. The surface to be coated shall be inspected and made sure to be free of grease, oil, dust, dirt and other foreign matter before starting work. The surface shall be cleaned using a stiff bristle broom and gas powered blower or water based pressure spray unit capable of generating 2500 psi at the nozzle tip, to remove all dirt and debris.
- C. The surface shall be flooded. Any ponding water remaining that is deep enough to cover the thickness of a five-cent piece shall be corrected using a patch mix consisting of Novabond, 50-mesh sand and Portland cement, as per manufacturers directions. Depressions must be primed with a 50% dilution of Novabond and water prior to patching.

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02743 – ACRYLIC SURFACE SYSTEM

- D. Application shall proceed only if the surface is dry and clean and the temperature is at least fifty degrees (50°F) and rising, and the surface temperature is not in excess of one hundred forty degrees (140°F). Do not apply coatings when rain is imminent.
- E. Each coat in this system must dry completely before next application. Between each coat, inspect entire surface. Any defects should be repaired. Scrape surface to remove any lumps, and broom or blow off all loose matter.
- F. Using a neoprene rubber squeegee, apply one (1) coat of Novasurface acrylic resurfacer, diluted with one (1) part clean water, to two (2) parts Novasurface. Clean, bagged sand shall be incorporated into the diluted Novasurface at the rate of five (5) to ten (10) Lbs. per gallon. Sand gradation shall be 50 to 60-mesh. Allow application to dry thoroughly.
- H. Using a neoprene rubber squeegee, apply two (2) coats of Novaplay (colors to be designated by owner). Allow each application to dry thoroughly. A small (not to exceed 8 fl. oz per gal.) quantity of water may be used in diluting these coatings, only if coatings are drying too rapidly. Permission of the owner shall be obtained before adding additional water.

3.2 LINE MARKINGS

- A. Upon completion and acceptance of the surface, this Contractor shall prepare and paint lines.
- B. All lines are to be applied by painting between masking tape with a paintbrush or roller.
- C. Prime masked lines with Seal-A-Line. Allow application to dry.
- D. Paint lines with Novatex textured line paint. Allow application to dry.
- E. Remove masking tape immediately after lines are dry.
- F. Protect adjacent areas and structures (fences, posts, sidewalks, buildings, etc.), which are not to be coated. In the event that coatings are applied to above, remove immediately before drying is complete.

3.3 COMPLETION

- A. Upon completion, the contractor shall insure proper removal of all construction debris, surplus materials, empty containers and wash water, and shall leave the site in a condition acceptable to the owner. The court is to be left secure so as to prevent vandalism.

3.4 LIMITATIONS

- A. Apply coatings only when ambient temperature is fifty degrees (50°F) and rising, and the surface temperature is not in excess of one hundred forty degrees (140°F).
- B. All NOVACRYLIC coatings are waterborne and cannot cure in cold temperatures or when subject to moisture. Care should be taken not to apply coatings when rain is forecast or sudden drop of temperature is expected. Climatic conditions such as very cool evenings and high dew points

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dictate that work should be completed early in the day so the coatings can be exposed to enough warm sunlight to form a film before sunset. The opposite applies during times of high heat, low humidity and drying breezes: under these conditions, work very early in the morning or very late in the day. If the product seems to be drying too fast in hot weather, mist the pavement with water to make the application easier. Care must be taken to allow each application to dry thoroughly prior to recoating.

END OF SECTION 02743

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SECTION 02751 – SITE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 REFERENCES

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

1.3 SUMMARY

- A. This Section includes exterior cement concrete for bench pads and paver base:
- B. Related Sections include the following:
 - 1. Division 2 Section "Gravel Base" for subbase material.

1.4 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of blended hydraulic cement, expansive hydraulic cement, fly ash and other pozzolans, ground granulated blast-furnace slag, and silica fume.

1.5 SUBMITTALS

- A. Product Data: For each type of manufactured material and product indicated.
- B. Design Mixes: For each concrete pavement mix. Include alternate mix designs when characteristics of materials, project conditions, weather, test results, or other circumstances warrant adjustments.

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1.6 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed pavement work similar in material, design, and extent to that indicated for this Project and whose work has resulted in construction with a record of successful in-service performance.
- B. Manufacturer Qualifications: Manufacturer of ready-mixed concrete products complying with ASTM C 94 requirements for production facilities and equipment.
 - 1. Manufacturer must be certified according to the National Ready Mix Concrete Association's Plant Certification Program.
- C. Source Limitations: Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant and each aggregate from one source.
- D. ACI Publications: Comply with ACI 301, "Specification for Structural Concrete," unless modified by the requirements of the Contract Documents.
- E. Mockups: Cast mockups of full-size sections of concrete pavement to demonstrate typical joints, surface finish, texture, color, and standard of workmanship.
 - 1. The first section of poured concrete may serve as a mockup. All joints and finishes shall be included
 - 2. Notify Landscape Architect seven days in advance of dates and times when mockups will be constructed.
 - 3. Obtain Landscape Architect's approval of mockups before continuing construction.
 - 4. Maintain approved mockups during construction in an undisturbed condition as a standard for judging the completed pavement.
 - 5. Demolish and remove non-approved mockups from the site when directed by Landscape Architect.
 - 6. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 PROJECT CONDITIONS

- A. Traffic Control: Maintain access for vehicular and pedestrian traffic as required for other construction activities.

PART 2 - PRODUCTS

2.1 FORMS

- A. General: Forms shall be of sufficient strength to maintain alignment without bowing.

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- B. Form Materials: Plywood, metal, metal-framed plywood, or other approved panel-type materials to provide full-depth, continuous, straight, smooth exposed surfaces.
 - 1. Use flexible or curved forms for curves of a radius 100 feet (30.5 m) or less.
- C. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and will not impair subsequent treatments of concrete surfaces.

2.2 STEEL REINFORCEMENT

- A. Plain-Steel Welded Wire Fabric: ASTM A 185, fabricated from as-drawn steel wire into flat sheets.
- B. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (Grade 420); deformed.
- C. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcement bars, welded wire fabric, and dowels in place. Manufacture bar supports according to CRSI's "Manual of Standard Practice" from steel wire, plastic, or precast concrete or fiber-reinforced concrete of greater compressive strength than concrete:

2.3 CONCRETE MATERIALS

- A. General: Use the same brand and type of cementitious material from the same manufacturer throughout the Project.
- B. Portland Cement: ASTM C 150 gray Portland cement, Type I.
- C. Water: ASTM C 94.
- D. Normal-Weight Aggregates: ASTM C 33, Class 4S, uniformly graded. Provide aggregates from a single source[with documented service-record data of at least 10 years' satisfactory service in similar paving applications and service conditions using similar aggregates and cementitious materials. Conform to Form 816 M.03.01, 1& 2, grading C
 - 1. Maximum Coarse-Aggregate Size: 3/4 inch (25 mm) nominal.
 - 2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

2.4 ADMIXTURES

- A. General: Admixtures certified by manufacturer to contain not more than 0.1 percent water-soluble chloride ions by mass of cement and to be compatible with other admixtures.
- B. Air-Entraining Admixture: AASHTO M 154.

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- C. Water-Reducing Admixture: ASTM C 494, Type A.
- D. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
- E. Water-Reducing and Accelerating Admixture: ASTM C 494, Type E.
- F. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.

2.5 CURING MATERIALS

- A. Absorptive Cover: AASHTO M 182, Class 2, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. (305 g/sq. m) dry.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- D. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating type.
 - 1. AASHTO M 148 type 2 class b.

2.6 RELATED MATERIALS

- A. Expansion Joint-Filler Strips: ASTM D 1751, AASHTO M 213 asphalt-saturated cellulosic fiber.
- B. Dowels – 5/8” diameter, 12” length smooth steel

2.7 CONCRETE MIXES

- A. Prepare design mixes, proportioned according to ACI 211.1 and ACI 301, for each type and strength of normal-weight concrete determined by either laboratory trial mixes or field experience.
- B. Proportion mixes to provide concrete with the following properties:
 - 1. Compressive Strength (28 Days): 4000 psi
 - 2. Slump Limit: 4 inches.
 - 3. Water-cementitious materials ratio: .45
 - 4. Air entrainment: 6%.
 - 5. Cementous materials 564 lb/cy.

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- C. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than portland cement in concrete as follows:
 - 1. Fly Ash: 15 percent.
 - 2. Combined Fly Ash and Pozzolan: 25 percent.
 - 3. Ground Granulated Blast-Furnace Slag: 50 percent.
 - 4. Combined Fly Ash or Pozzolan, and Ground Granulated Blast-Furnace Slag: 50 percent portland cement minimum, with fly ash or pozzolan not exceeding 25 percent.

- D. Add air-entraining admixture at manufacturer's prescribed rate to result in concrete at point of placement having an air content as follows within a tolerance of plus or minus 1.0 percent:
 - 1. Air Content: 6.0 percent for 3/4-inch (19-mm) maximum aggregate.

2.8 CONCRETE MIXING

- A. Ready-Mixed Concrete: Comply with requirements and with ASTM C 94 and ASTM C 1116.
 - 1. When air temperature is between 85 deg F (30 deg C) and 90 deg F (32 deg C), reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F (32 deg C), reduce mixing and delivery time to 60 minutes.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Proof-roll prepared subbase surface to check for unstable areas and verify need for additional compaction. Proceed with pavement only after nonconforming conditions have been corrected and subgrade is ready to receive pavement.

- B. Remove loose material from compacted subbase surface immediately before placing concrete.

3.2 EDGE FORMS AND SCREED CONSTRUCTION

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides for pavement to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.

- B. Clean forms after each use and coat with form release agent to ensure separation from concrete without damage.

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3.3 STEEL REINFORCEMENT

- A. General: Comply with CRSI's "Manual of Standard Practice" for fabricating reinforcement and with recommendations in CRSI's "Placing Reinforcing Bars" for placing and supporting reinforcement.
 - 1. Apply epoxy repair coating to uncoated or damaged surfaces of epoxy-coated reinforcement.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, or other bond-reducing materials.
- C. Arrange, space, and securely tie bars and bar supports to hold reinforcement in position during concrete placement. Maintain minimum cover to reinforcement.
- D. Install welded wire fabric in lengths as long as practicable. Lap adjoining pieces at least one full mesh, and lace splices with wire. Offset laps of adjoining widths to prevent continuous laps in either direction.

3.4 JOINTS

- A. General: Construct construction, isolation, and contraction joints and tool edgings true to line with faces perpendicular to surface plane of concrete. Construct joints at right angles to centerline, unless otherwise indicated. Joints to form a "picture frame" pattern
 - 1. When joining existing pavement, place transverse joints to align with previously placed joints, unless otherwise indicated.
- B. Expansion Joints: Form expansion joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, walks, other fixed objects, and where indicated.
 - 1. Locate expansion joints as noted on plans
 - 2. Extend joint fillers full width and depth of joint.
 - 3. Terminate joint filler 1/2 inch (12 mm) below finished surface if joint sealant is indicated.
 - 4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
 - 5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
 - 6. Protect top edge of joint filler during concrete placement with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
 - 7. Doweled Joints: Install dowel bars and support assemblies at expansion joints, 12" O.C. Lubricate one-half of dowel length to prevent concrete bonding to one side of joint.
- C. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, and as follows:

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1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate grooving-tool marks on concrete surfaces.
 2. Sawed Joints: Form contraction joints with power saws equipped with shatterproof abrasive or diamond-rimmed blades. Cut 1/8-inch- (3-mm-) wide joints into concrete when cutting action will not tear, abrade, or otherwise damage surface and before developing random contraction cracks.
- D. Edging: After initial floating, tool edges of paving, curbs, and joints in concrete with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

3.5 CONCRETE PLACEMENT

- A. Inspection: Before placing concrete, inspect and complete formwork installation, reinforcement steel, and items to be embedded or cast in. Notify other trades to permit installation of their work.
- B. Remove snow, ice, or frost from subbase surface and reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- C. Moisten subbase to provide a uniform dampened condition at the time concrete is placed. Do not place concrete around manholes or other structures until they are at the required finish elevation and alignment.
- D. Comply with requirements and with recommendations in Form 816, Section 4.01.03 for measuring, mixing, transporting, and placing concrete.
- E. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- F. Consolidate concrete by mechanical vibrating equipment supplemented by hand-spading, rodding, or tamping. Use equipment and procedures to consolidate concrete according to recommendations in ACI 309R.
 1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand-spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels, and joint devices.
- G. Place concrete in two operations; strike off initial pour for entire width of placement and to the required depth below finish surface. Lay welded wire fabric or fabricated bar mats immediately in final position. Place top layer of concrete, strike off, and screed.

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1. Remove and replace portions of bottom layer of concrete that have been placed more than 15 minutes without being covered by top layer, or use bonding agent if approved by Landscape Architect.
- H. Screed pavement surfaces with a straightedge and strike off. Commence initial floating using bull floats or darbies to form an open textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading dry-shake surface treatments.
- I. Cold-Weather Placement: Comply with ACI 306.1 and as follows. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 1. When air temperature has fallen to or is expected to fall below 40 deg F (4.4 deg C), uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F (10 deg C) and not more than 80 deg F (27 deg C) at point of placement.
 2. Do not use frozen materials or materials containing ice or snow.
 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators, unless otherwise specified and approved in mix designs.
- J. Hot-Weather Placement: Place concrete according to recommendations in ACI 305R and as follows when hot-weather conditions exist:
 1. Cool ingredients before mixing to maintain concrete temperature at time of placement below 90 deg F (32 deg C). Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated to total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
 2. Cover reinforcement steel with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.
 3. Fog-spray forms, reinforcement steel, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

3.6 CONCRETE FINISHING

- A. General: Wetting of concrete surfaces during screeding, initial floating, or finishing operations is prohibited. Conform to Form 816 4.01.03-F-5
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.

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1. Medium-to-Coarse-Textured Broom Finish: Provide a coarse finish by striating float-finished concrete surface 1/16 to 1/8 inch (1.6 to 3 mm) deep with a stiff-bristled broom, perpendicular to line of traffic.

3.7 CONCRETE CURING

A. AIR CURING IS NOT ACCEPTABLE

- B. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures. Comply with ACI 306.1 for cold-weather protection and follow recommendations in ACI 305R for hot-weather protection during curing. Conform to Form 816 4.01.03--(7). Cure for 7 days minimum. Begin curing within 2 hours of placing concrete

- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h (1 kg/sq. m x h) before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete, but before float finishing.

- D. Begin curing after finishing concrete, but not before free water has disappeared from concrete surface.

- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound, or a combination of these as follows:

1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:

- a. Water.
- b. Continuous water-fog spray.
- c. Absorptive cover, water saturated, and kept continuously wet. Cover concrete surfaces and edges with 12-inch (300-mm) lap over adjacent absorptive covers.

2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover for curing concrete, placed in widest practicable width, with sides and ends lapped at least 12 inches (300 mm), and sealed by waterproof tape or adhesive. Immediately repair any holes or tears during curing period using cover material and waterproof tape.

3. Curing Compound: Apply uniformly in continuous operation by power spray or roller according to manufacturer's written instructions. Apply in two coats, the second application at right angles to the first. Recoat areas that have been subjected to heavy rainfall within three hours after initial application. Maintain continuity of coating, and repair damage during curing period.

4. Seal all concrete with "Salt Guard" as manufactured by A.H. Harris or equal

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3.8 PAVEMENT TOLERANCES

A. Comply with tolerances of ACI 117 and as follows:

1. Elevation: 1/4 inch (6 mm).
2. Thickness: Plus 3/8 inch (9 mm), minus 1/4 inch (6 mm).
3. Surface: Gap below 10-foot- (3-m-) long, unlevelled straightedge not to exceed 1/4 inch (6 mm).
4. Joint Spacing: 3 inches (75 mm).
5. Contraction Joint Depth: Plus 1/4 inch (6 mm), no minus.
6. Joint Width: Plus 1/8 inch (3 mm), no minus.

3.9 FIELD QUALITY CONTROL

A. Testing Agency: Contractor to engage a qualified testing and inspection agency to sample materials, perform tests, and submit test reports during concrete placement. Sampling and testing for quality control may include those specified in this Article.

1. Testing Frequency: Obtain at least one composite sample for each 3000 sq. ft. fraction thereof of each concrete mixture placed each day.

B. Testing Services: Testing shall be performed according to the following requirements:

1. Sampling Fresh Concrete: Representative samples of fresh concrete shall be obtained according to ASTM C 172, except modified for slump to comply with ASTM C 94.
2. Slump: ASTM C 143; one test at point of placement for each compressive-strength test, but not less than one test for each day's pour of each type of concrete. Additional tests will be required when concrete consistency changes.
3. Air Content: ASTM C 231, pressure method; one test for each compressive-strength test, but not less than one test for each day's pour of each type of air-entrained concrete.
4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F (4.4 deg C) and below and when 80 deg F (27 deg C) and above, and one test for each set of compressive-strength specimens.
5. Compression Test Specimens: ASTM C 31/C 31M; one set of four standard cylinders for each compressive-strength test, unless otherwise indicated. Cylinders shall be molded and stored for laboratory-cured test specimens unless field-cured test specimens are required.
6. Compressive-Strength Tests: ASTM C 39; one set for each day's pour of each concrete class exceeding 5 cu. yd. (4 cu. m), but less than 25 cu. yd. (19 cu. m), plus one set for each additional 50 cu. yd. (38 cu. m). One specimen shall be tested at 7 days and two specimens at 28 days; one specimen shall be retained in reserve for later testing if required.
7. When frequency of testing will provide fewer than five compressive-strength tests for a given class of concrete, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.

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8. When total quantity of a given class of concrete is less than 50 cu. yd. (38 cu. m), Landscape Architect may waive compressive-strength testing if adequate evidence of satisfactory strength is provided.
 9. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, current operations shall be evaluated and corrective procedures shall be provided for protecting and curing in-place concrete.
 10. Strength level of concrete will be considered satisfactory if averages of sets of three consecutive compressive-strength test results equal or exceed specified compressive strength and no individual compressive-strength test result falls below specified compressive strength by more than 500 psi (3.4 MPa).
- C. Test results shall be reported in writing to Landscape Architect, concrete manufacturer, and Contractor within 24 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing agency, concrete type and class, location of concrete batch in pavement, design compressive strength at 28 days, concrete mix proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- D. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Landscape Architect but will not be used as the sole basis for approval or rejection.
- E. Additional Tests: Testing agency shall make additional tests of the concrete when test results indicate slump, air entrainment, concrete strengths, or other requirements have not been met, as directed by Landscape Architect. Testing agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C 42, or by other methods as directed.
- 3.10 REPAIRS AND PROTECTION
- A. Remove and replace concrete pavement that is broken, damaged, or defective, or does not meet requirements in this Section.
 - B. Drill test cores where directed by Landscape Architect when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory pavement areas with portland cement concrete bonded to pavement with epoxy adhesive.
 - C. Protect concrete from damage. Exclude traffic from pavement for at least 14 days after placement. When construction traffic is permitted, maintain pavement as clean as possible by removing surface stains and spillage of materials as they occur.
 - D. Maintain concrete pavement free of stains, discoloration, dirt, and other foreign material. Sweep concrete pavement not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 02751

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02780 – PAVERS

SECTION 02780 - PAVERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 01 Specification Sections, apply to this Section.

1.2 SUMMARY

- A. Section Includes:
 - 1. Concrete pavers set in bituminous setting beds.

1.3 SUBMITTALS

- A. Product Data: For the following:
 - 1. Pavers.
 - 2. Bituminous setting materials.

1.4 QUALITY ASSURANCE

- A. Source Limitations: Obtain each type of unit paver, joint material, and setting material from single source with resources to provide materials and products of consistent quality in appearance and physical properties.
- B. Mockups: Build mockups to verify selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
 - 1. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Store pavers on elevated platforms in a dry location. If units are not stored in an enclosed location, cover tops and sides of stacks with waterproof sheeting, securely tied.
- B. Store cementitious materials on elevated platforms, under cover, and in a dry location. Do not use cementitious materials that have become damp.

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- C. Store aggregates where grading and other required characteristics can be maintained and contamination avoided.
- D. Store asphalt cement and other bituminous materials in tightly closed containers.

1.6 PROJECT CONDITIONS

- A. Cold-Weather Protection: Do not use frozen materials or materials mixed or coated with ice or frost. Do not build on frozen subgrade or setting beds. Remove and replace unit paver work damaged by frost or freezing.
- B. Weather Limitations for Bituminous Setting Bed:
 - 1. Install bituminous setting bed only when ambient temperature is above 40 deg F (4 deg C) and when base is dry.
 - 2. Apply asphalt adhesive only when ambient temperature is above 50 deg F (10 deg C) and when temperature has not been below 35 deg F (2 deg C) for 12 hours immediately before application. Do not apply when setting bed is wet or contains excess moisture.

PART 2 - PRODUCTS

2.1 BRICK PAVERS

- A. Regional Materials: Provide brick pavers that have been manufactured within 500 miles of Project site from materials that have been extracted, harvested, or recovered, as well as manufactured, within 500 miles of Project site.

2.2 CONCRETE PAVERS

- 1. Manufacturer: Pavers by Ideal. Style: Boston Colonial.

2.3 BITUMINOUS SETTING-BED MATERIALS

- A. Primer for Base: ASTM D 2028, cutback asphalt, grade as recommended by unit paver manufacturer.
- B. Fine Aggregate for Setting Bed: ASTM D 1073, No. 2 or No. 3.
- C. Asphalt Cement: ASTM D 3381, Viscosity Grade AC-10 or Grade AC-20.
- D. Neoprene-Modified Asphalt Adhesive: Paving manufacturer's standard adhesive consisting of oxidized asphalt combined with 2 percent neoprene and 10 percent long-fibered mineral fibers containing no asbestos.

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- E. Sand for Joints: Fine, sharp, washed, natural sand or crushed stone with 100 percent passing No. 16 (1.18-mm) sieve and no more than 10 percent passing No. 200 (0.075-mm) sieve.

2.4 BITUMINOUS SETTING-BED MIX

- A. Mix bituminous setting-bed materials at an asphalt plant in approximate proportion, by weight, of 7 percent asphalt cement to 93 percent fine aggregate unless otherwise indicated. Heat mixture to 300 deg F (149 deg C).

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas indicated to receive paving, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Remove substances from concrete substrates that could impair mortar bond, including curing and sealing compounds, form oil, and laitance.
- B. Sweep concrete substrates to remove dirt, dust, debris, and loose particles.

3.3 INSTALLATION, GENERAL

- A. Do not use unit pavers with chips, cracks, voids, discolorations, or other defects that might be visible or cause staining in finished work.
- B. Mix pavers from several pallets or cubes, as they are placed, to produce uniform blend of colors and textures.
- C. Cut unit pavers with motor-driven masonry saw equipment to provide clean, sharp, unchipped edges. Cut units to provide pattern indicated and to fit adjoining work neatly. Use full units without cutting where possible. Hammer cutting is not acceptable.
 - 1. For concrete pavers, a block splitter may be used.

3.4 BITUMINOUS SETTING-BED APPLICATIONS

- A. Apply primer to concrete slab or binder course immediately before placing setting bed.

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02780 – PAVERS

- B. Prepare for setting-bed placement by locating 3/4-inch- (19-mm-) deep control bars approximately 11 feet (3.3 m) apart and parallel to one another, to serve as guides for striking board. Adjust bars to subgrades required for accurate setting of paving units to finished grades indicated.
- C. Place bituminous setting bed where indicated, in panels, by spreading bituminous material between control bars. Spread mix at a minimum temperature of 250 deg F (121 deg C). Strike setting bed smooth, firm, even, and not less than 3/4 inch (19 mm) thick. Add fresh bituminous material to low, porous spots after each pass of striking board. After each panel is completed, advance first control bar to next position in readiness for striking adjacent panels. Carefully fill depressions that remain after removing depth-control bars.
 - 1. Roll setting bed with power roller to a nominal depth of 3/4 inch (19 mm). Adjust thickness as necessary to allow accurate setting of unit pavers to finished grades indicated. Complete rolling before mix temperature cools to 185 deg F (85 deg C).
- D. Apply neoprene-modified asphalt adhesive to cold setting bed by squeegeeing or troweling to a uniform thickness of 1/16 inch (1.6 mm). Proceed with setting of paving units only after adhesive is tacky and surface is dry to touch.
- E. Place pavers carefully by hand in straight courses, maintaining accurate alignment and uniform top surface. Protect newly laid pavers with plywood panels on which workers can stand. Advance protective panels as work progresses, but maintain protection in areas subject to continued movement of materials and equipment to avoid creating depressions or disrupting alignment of pavers. If additional leveling of paving is required, and before treating joints, roll paving with power roller after sufficient heat has built up in the surface from several days of hot weather.
- F. Joint Treatment: Place unit pavers with hand-tight joints. Fill joints by sweeping sand over paved surface until joints are filled. Remove excess sand after joints are filled.

END OF SECTION 02780

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02870 – SITE FURNISHINGS

SECTION 02870 – SITE FURNISHINGS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. This Section includes the following:
 - 1. Steel Benches.
 - 2. Basketball Backboard.
 - 3. Basketball Goal.
 - 4. Basketball Net
- B. Related Sections include the following:
 - 1. Division 2 Section “Cement Concrete Pavement” for poured-in-place concrete.

1.3 SUBMITTALS

- A. Product Data for all manufactured products.
- B. Shop drawings for all products.

PART 2 – PRODUCTS AND MATERIALS

2.1 MANUFACTURERS

- A. Subject to compliance with requirements, provide product by the following.
 - 1. Steel Benches – DuMor 58-60 with center armrest as manufactured by DuMor, Inc.
 - 2. Steel Backboard – Model 50 RB BB by Jaypro
 - 3. Basketball Goal – Model UGB-500 by Jaypro
 - 4. Basketball Net – Model J-3 by Jaypro

PART 3 - EXECUTION

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02870 – SITE FURNISHINGS

3.1 EXAMINATION

- A. Examine surfaces indicated to receive site improvements for compliance with requirements for installation. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.2 INSTALLATION

- A. Attach steel benches to concrete pads as noted on the Drawings and manufacturer's written installation instructions.

3.3 CLEANING

- A. After completing site furnishing installation, inspect components. Remove spots, dirt, and debris. Repair damaged finishes to match original finish or replace component.

END OF SECTION 02870

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02920 – TURF GRASSES

SECTION 02920 – TURF GRASSES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Hydroseeding.
- B. Related Sections:
 - 1. Division 2 Section "Site Clearing" for topsoil stripping and stockpiling.
 - 2. Division 2 Section "Exterior Plants" shrubs along fence and perennials.

1.3 REFERENCES

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

1.4 SUBMITTALS

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

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02920 – TURF GRASSES

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.
 - 1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
 - 2. Experience: Five years' experience in turf installation in addition to requirements in Division 1 Section "Quality Requirements."
 - 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
 - 4. Pesticide Applicator: State licensed, commercial.

- B. Soil-Testing Laboratory Qualifications: An independent laboratory or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.

- C. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of the soil.
 - 1. Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
 - 2. A minimum of three representative samples shall be taken from varied locations for each soil to be used or amended for planting purposes.
 - 3. Report suitability of tested soil for turf growth.
 - a. Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. (92.9 sq. m) or volume per cu. yd. (0.76 cu. m) for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.
 - b. Report presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws, as applicable.

- B. Bulk Materials:

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1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
3. Accompany each delivery of bulk fertilizers, lime, and soil amendments with appropriate certificates.

1.7 PROJECT CONDITIONS

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

1.8 MAINTENANCE SERVICE

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

PART 2 - PRODUCTS

2.1 SEED

- A. Grass Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.
- B. Seed Species: Seed of grass species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed:
 1. Hart's Wear 'n Tear Mix

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2.2 INORGANIC SOIL AMENDMENTS

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
 - 1. Class: T, with a minimum of 99 percent passing through No. 8 (2.36-mm) sieve and a minimum of 75 percent passing through No. 60 (0.25-mm) sieve.
- B. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, and with a minimum of 99 percent passing through No. 6 (3.35-mm) sieve and a maximum of 10 percent passing through No. 40 (0.425-mm) sieve.
- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Aluminum Sulfate: Commercial grade, unadulterated.
- E. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 (0.30-mm) sieve.

2.3 FERTILIZERS

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

2.4 MULCHES

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

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2.5 PESTICIDES

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

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

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

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3.3 TURF AREA PREPARATION

A. Unchanged Subgrades:

1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
2. Loosen surface soil to a depth of at least 6 inches (150 mm). Apply soil amendments and fertilizers according to soil test and mix thoroughly into top 4 inches (150 mm) of soil. Till soil to a homogeneous mixture of fine texture. Final depth of topsoil shall be 4 inches minimum.
 - a. Apply fertilizer directly to surface soil before loosening.
3. Remove stones larger than 1 inch (25 mm) in any dimension and sticks, roots, trash, and other extraneous matter.
4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.

B. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch (13 mm) of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.

C. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

D. Before planting, obtain Architect's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

3.5 MAINTENANCE

A. Maintain and establish turf by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.

1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and turf damaged or lost in areas of subsidence.
2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.

E. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches (100 mm).

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1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
 2. Water turf with fine spray at a minimum rate of 1 inch (25 mm) per week unless rainfall precipitation is adequate.
- F. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
1. Mow to a height of 1-1/2 to 2 inches (38 to 50 mm).
- G. Turf Postfertilization: Apply fertilizer after initial mowing and when grass is dry.
1. Use fertilizer that will provide actual nitrogen of at least 1 lb/1000 sq. ft. (0.45 kg/92.9 sq. m) to turf area.
- H. 3.6 SATISFACTORY TURF
- A. Turf installations shall meet the following criteria as determined by Landscape Architect:
1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. (0.92 sq. m) and bare spots not exceeding 5 by 5 inches.
- B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.
- 3.7 HERBICIDE AND PESTICIDE APPLICATION
- A. Apply pesticides and other chemical products and biological control agents in accordance with requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.
- 3.4 CLEANUP AND PROTECTION
- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.

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- B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- C. Contractor is responsible for protecting new lawn areas until grass is established, by whatever method necessary to ensure a full stand or grass.
- D. Remove nondegradable erosion-control measures after grass establishment period. A.

END OF SECTION 02920

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09960 – HIGH PERFORMANCE COATINGS FOR FENCING AND GOAL POSTS

SECTION 09960 – HIGH PERFORMANCE COATINGS FOR FENCING AND GOAL POSTS

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 surface preparation and field application of high-performance coating systems to items and surfaces scheduled.

1.3 ENVIRONMENTAL CONDITIONS

- A. Surface and surrounding air temperatures must exceed 55 degrees F. but must be less than 90 degrees F., with materials at not less than 70 degrees F. during application.

1.4 QUALIFICATION OF APPLICATOR

- A. Applicator Qualifications: Engage an experienced applicator who has completed high-performance coating system applications similar in material and extent to those indicated for Project and whose work has a record of successful in-service performance.
- B. Source Limitations: Obtain primers and undercoat materials for each coating system from the same manufacturer as the finish coats.

1.5 SUBMITTALS

- A. Product Data: For each coating system indicated. Include primers, intermediate and topcoats.
 - 1. Material List: An inclusive list of required coating materials. Indicate each material and cross-reference the specific coating, finish system, and application. Identify each material by manufacturer's catalog number and general classification.
 - 2. Manufacturer's Information: Manufacturer's technical information, including label analysis and instructions for handling, storing, and applying each material specified.
- B. Certification by manufacturer that products supplied comply with requirements indicated that limit the amount of VOCs in coating products.
- C. Samples for Initial Selection: Manufacturer's color charts showing the full range of colors available for each type of finish-coat material indicated.

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09960 – HIGH PERFORMANCE COATINGS FOR FENCING AND GOAL POSTS

1. After color selection, Architect will furnish color chips for surfaces to be coated.
- D. Samples for Verification: For each color and material to be applied, with texture to simulate actual conditions, on representative samples of the actual substrate.
1. Provide stepped Samples defining each separate coat, including primers. Use representative colors when preparing Samples for review. Resubmit until required sheen, color, and texture are achieved.
 2. List of material and application for each coat of each sample. Label each sample for location and application.
 3. Submit samples on the following substrates for Architect's review of color and texture:
 - a. Ferrous and Nonferrous Metal: Provide two 4-inch square samples of flat metal and two 8-inch long samples of solid metal for each color and finish.
- E. Qualification Data: For firms and persons specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- F. Requests for all substitutions will be submitted and approved in writing to Architect 10 days before bid date.
- G. Product Substitution: The specified materials are the minimum standards of quality for this project. Performance equivalent materials of other manufacturers may be substituted only by written approval of the architect or engineer. Requests for material substitutions shall be in accordance with requirements of the project specification.
1. Manufacturers of "approved equal" products shall provide direct property comparison with the materials specified in addition to complying with all other requires of this Specification. "Approved Equal" products shall employ the same generic materials and system components as the specified system.
 2. Bidders desiring to use materials other than those specified shall submit proposed system with their proposal at the time of bid based, together with the information required herein, and indicate the sum which will be deducted from the base bid should alternate materials be accepted.
- 1.6 DELIVERY, STORAGE, AND HANDLING
- A. Deliver materials to Project site in manufacturer's original, unopened packages and containers bearing manufacturer's name and label with the following information:
1. Name or title of material.
 2. Product description (generic classification or binder type).

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3. Manufacturer's stock number and date of manufacture.
 4. Contents by volume, for pigment and vehicle constituents.
 5. Thinning instructions.
 6. Application instructions.
 7. Color name and number.
 8. Handling instructions and precautions.
- B. Store materials not in use in tightly covered containers in a well-ventilated area at a minimum ambient temperature of 60° F. Maintain containers used in storage in a clean condition, free of foreign materials and residue.
1. Protect materials from freezing. Keep storage area neat and orderly. Remove oily rags and waste daily. Take necessary measures to ensure that workers and work areas are protected from fire and health hazards resulting from handling, mixing, and applying coatings.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Tnemec Company, Incorporated or approved performance equivalent

PART 3 - EXECUTION

3.1 INSPECTION OF SURFACES

- A. Examine surfaces to be coated and report any conditions that would adversely effect the appearance or performance of the coating system and which cannot be put into an acceptable condition by the preparatory work specified herein.
- B. Do not proceed with surface preparation and application until surfaces are acceptable. Commencement of application of coating to any surface shall be construed as acceptance or surfaces as being proper to receive the finish, and any defects in work resulting from such accepted surfaces shall be corrected by the applicator without additional cost to the Owner.
- C. Thickness (mils) of the finished coating systems shall be tested with an Elcometer (or equal) digital coating thickness gauge, supplied by the contractor. Representative testing of each coat, including the primer, shall be completed as requested by the owners representative. At a minimum, every 10 SF of finished surface shall be tested.

3.2 HIGH PERFORMANCE COATING SYSTEM

Field Applied System

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09960 – HIGH PERFORMANCE COATINGS FOR FENCING AND GOAL POSTS

Steel and Ferrous Metals

Surface Prep: SSPC-SP12 Water Jetting with 4,000 psi and oscillating tip followed by SSPC-SP2/3 Hand and Power Tool Cleaning on corroded areas.
Coat 1: Tnemec Series 135 Chembuild @ 4-6mils DFT
Coat 2: Tnemec Series 1075 EnduraShield @ 2-3mils DFT

Concrete and Cementitious Substrates

Surface Prep: SSPC-SP12 Water Jetting with 4,000 psi and oscillating tip
Coat 1: Tnemec Series 156 EnviroCrete @ 4-6mils DFT
Coat 2: Tnemec Series 156 EnviroCrete @ 4-6mils DFT

END OF SECTION 09960

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16010 BASIC ELECTRICAL REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and Division 1, General Requirements, apply to work specified in this Section.

1.2 INCLUDED IN THIS SECTION:

- A. General Requirements for Electrical Work
- B. Nameplates
- C. Tags and Charts
- D. Sleeves, Inserts and Anchor Bolts
- E. Fire stopping

1.3 DESCRIPTION OF WORK:

- A. This Section specifies general requirements for mechanical work. Definitions, intent, drawings, interpretation, approvals, submittals, substitutions, code requirements, permits, fees, royalties, patents, record drawings, instruction of Owner's personnel, and warranty are described.
- B. Operation and maintenance manuals shall be submitted to the Architect prior to the scheduled instruction of Owner's representatives. These manuals shall contain equipment lists, manufacturer's literature, and time schedule for recommended maintenance.

1.4 DEFINITIONS:

- A. "Provide" means to supply, erect, install, and connect up in complete readiness for regular operation, the particular work referred.
- B. "Furnish" means to supply and deliver to the job.
- C. "Install" means to erect, install and connect up in complete readiness for regular operation.
- D. "Conduit" includes, in addition to conduit, all fittings, sleeves, connections, hangers, and other accessories related to such conduit.
- E. "Wiring" means, in addition to wire, all needed connectors, circuit breakers, switches and devices, junction boxes and other items necessary for normal operation of the item being referred to.
- F. "Concealed" means hidden from sight, as in chases, furred spaces, shafts, hung ceilings, or embedded in construction.
- G. "Exposed" means not concealed as defined above. Trenches, crawl spaces, and tunnels shall be considered exposed.

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H. "Governmental" means all Municipal, State, and Federal governmental agencies.

I. "Owner" means the tenant who shall occupy the space after final acceptance.

1.5 INTENT:

A. It is the intention of the Drawings and Specifications to call for finished work, tested and ready for operation. All materials, equipment and apparatus shall be new and of first class quality.

B. Any apparatus, appliance, material, or work not shown on the Drawings, but mentioned in the Specifications, or vice versa, or any incidental accessories, or minor details not shown, but necessary to make the work complete and perfect in all respects, and ready for operation, even if not particularly specified, shall be provided by the Contractor without additional expense to the Owner.

C. With the submission of bid, the Contractor shall give written notice to the Architect of any materials, apparatus or omissions believed to be in violation of laws, ordinances, rules or regulations or authorities having jurisdiction. In the absence of such written notice it is mutually agreed that the Contractor shall include the cost of providing all systems in accordance with applicable regulations without extra compensation.

1.6 DRAWINGS:

A. The Drawings are generally diagrammatic and are intended to convey the scope of work and indicate general arrangement of equipment, ducts, conduits, piping, fixtures and connections.

B. Consider architectural and structural drawings part of this work insofar as these drawings furnish information relating to design and construction of the building.

C. The Drawings do not indicate all offsets, fittings, and accessories which may be required. Investigate finish conditions affecting this work, and arrange work accordingly, providing such fittings, and accessories required to meet the conditions.

D. The locations of all items shown on the Drawings or called for in the Specifications that are not definitely fixed by dimensions, are approximate only. The exact locations necessary to secure the best conditions and results must be determined at the project, and shall have the approval of the Architect before being installed. **DO NOT SCALE DRAWINGS.**

E. Follow Drawings as closely as actual building conditions will permit in laying out work. Check Drawings for other trades to verify spaces in which work will be installed. Maintain maximum headroom and space conditions throughout. Where headroom or space conditions appear inadequate, the Architect shall be notified before proceeding with installation.

F. If directed by the Architect, the Contractor shall, without extra charge, make reasonable modifications in the layout as needed to prevent conflict with work of other trades or for proper execution of the work.

1.7 INTERPRETATION OF DRAWINGS AND SPECIFICATIONS:

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16010 BASIC ELECTRICAL REQUIREMENTS

- A. Any questions or disagreements arising as to the true intent of this Specification or the Drawings, or the kind and quality of work required thereby, shall be decided by the Architect, whose interpretations thereof shall be final, conclusive and binding on all parties.
- B. In the case of disagreement between Drawings and Specifications, or within either document itself, the better quality, greater quantity or more costly work shall be included in the contract price, and the matter referred to the Architect's attention for decision and/or adjustment.

1.8 APPROVALS:

- A. The materials, workmanship, design and arrangement of all work installed under the Contract shall be subject to the approval of the Architect. If material or equipment is installed before it is approved, the Contractor shall be liable for removal and replacement, at no extra cost to the Owner, if, in the opinion of the Architect, the material or equipment does not meet the intent of the Drawings and Specifications.

1.9 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES:

- A. The Contractor shall submit five (5) copies of Shop Drawings, Product Data and/or Samples to the Architect for review prior to releasing an order for fabrication and/or shipment. These submittals shall be given for materials and equipment and as called for under each particular Section of the Specifications.
- B. Product Data submittals shall consist of complete catalog data clearly indicating all applicable items, in the following manner:
 - 1. State sizes, capacities, brand names, accessories, materials, gauges, dimensions, and other pertinent information.
 - 2. List on catalog covers page numbers of submitted items.
 - 3. Underline applicable data. Highlighting applicable data is not sufficient.
- C. Incomplete or unclear submittals will be returned unreviewed for correction and resubmission. Additional copies beyond five (5), or submittals of items other than what is called for under each particular Section, will be returned unreviewed.
- D. Submittals of equipment or materials other than those indicated on the Drawings or in the Specifications will be returned unreviewed, except for reasons as noted under SUBSTITUTIONS.
- E. This Division shall coordinate all aspects of respective subsections with the contractor including material data, and overall drawings, and installation sequencing, etc. See Division 1 requirements.

1.10 SUBSTITUTIONS:

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- A. Substitutions of equipment or materials other than those shown on the Drawings or called for in the Specifications will be considered for review only under one or more of the following conditions.
1. Less than three (3) acceptable manufacturers are indicated on the Drawings or in the Specifications.
 2. Substitution is required for compliance with subsequent interpretations of code requirements or insurance regulations.
 3. Substitution is required due to unavailability of special products, through no fault of the Contractor. Excluded is lack of availability within a desired time frame due to Contractor's failure to order equipment or material early enough.
 4. Manufacturer/fabricator refuses to certify or guarantee performance of specified product as required.
 5. Within fifteen (15) days of Award of Contract, the Contractor and Subcontractors under this Division shall submit to the Architect a complete list of manufacturers and model numbers proposed for the work of Division 15. Refer to the Paragraphs of this Section regarding: Approvals; Shop Drawings, Product Data and Samples; and Substitutions. The intent by the Contractor or Subcontractors to use the exact manufacturers and/or model numbers specified does not void the requirement for this Submission for Approval.
- B. The particular condition necessitating a substitution must be clearly indicated on the substitution's transmittal or it will be returned unreviewed.
- C. The Contractor shall submit a substitution for review before releasing an order for fabrication and/or shipment. The Architect reserves the right to reject such substitution, provided the item offered, in his opinion, is not equal to the item specified.
- D. When a Contractor proposes to use an item of equipment other than that specified or detailed on the Drawings, and which requires any redesign of structure, partitions, foundations, wiring, or of any other part of the electrical, or architectural layout, the Contractor shall assume responsibility for additional costs incurred in planning, design and construction to accommodate the substitution. If approved by the Architect, redesigned drawings and details to accommodate the substitution may be prepared by the Contractor at his own expense.
- E. If a substitution requires a different quantity and arrangement of wiring, conduit, and equipment from that specified or indicated on the Drawings, subject to approval of the Architect, the Contractor shall provide any such structural supports, electrical wiring and conduit, and any other additional equipment required by the system, at no additional cost to the Owner.

1.11 CODE REQUIREMENTS, PERMITS AND FEES:

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- A. Perform work in accordance with applicable provisions of the accepted version of the NFPA codes including the National Electric Code and Life Safety Code, and all state and local codes. All work shall also be in compliance with utility companies' requirements.
- B. In cases of differences between building codes, state laws, local ordinances, utility company regulations, and Contract Documents, the most stringent shall govern. Promptly notify Architect in writing of such differences.
- C. Include in the work, without extra cost to the Owner, any labor, material, service, test, apparatus, or drawing (in addition to Contract Drawings and Documents) in order to comply with applicable laws, ordinances, rules, regulations, and local authority's requirements, whether or not shown on Drawings and/or specified.
- D. Give all necessary notices, obtain all permits before commencing work, and pay all governmental taxes, fees and other costs in connection with the work. File all necessary plans, prepare all documents and obtain all necessary approvals of the authorities having jurisdiction. Obtain all required Certificates of Inspection for the work and deliver them to the Architect before requesting final payment for the work.
- E. The Contractor shall be licensed in accordance with the guidelines of the Department of Consumer Protection. The workers employed by the Contractor shall be skilled and licensed to perform the work involved.

1.12 ROYALTIES AND PATENTS:

- A. The Contractor shall pay all royalties and shall defend all suits or claims for infringement of any patent rights and shall save the Owner harmless from loss on account thereof.
- B. If the Contractor observes that a process or article specified is an infringement of a patent, the Contractor shall promptly notify the Architect in writing, and any necessary changes shall be adjusted as provided in the Contract for changes in the work. If the Contractor performs any work specified, knowing it to be an infringement of a patent, the Contractor shall bear all costs arising therefrom.

1.13 RECORD DRAWINGS:

- A. Clearly record differences between mechanical and electrical work as installed and as shown or called for in the Contract Documents. Accurate notations of all locations, sizes and inverts of all concealed materials shall be made. These records shall be marked, concurrent with progress, on a set of prints labeled "RECORD DRAWINGS."
- B. On completion of project, mark a set of prints with data transferred from the Record Drawings, and submit them to the Architect for review for legibility and clearness of presentation of the recorded conditions of construction.

1.14 INSTRUCTION OF OWNER'S PERSONNEL:

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- A. After completion of all work and all tests and at such time as designated by the Owner's representative, the Contractor shall provide the necessary skilled personnel to operate each entire installation for a period of two (2) days of eight hours.
- B. During the operating period, the Contractor shall fully instruct the Owner's representative in the complete operation, adjustment, and maintenance of the entire installation.

1.15 OPERATION AND MAINTENANCE MANUALS:

- A. Prepare a manual of operation and maintenance instructions, in draft form, and submit to the Architect for review.
- B. The Manual shall contain the following items:
 - 1. Brief description of each system covering its basic operating characteristics.
 - 2. List of all equipment with manufacturer's name and model number for each item.
 - 3. Contractor's own written operating and maintenance instructions, including detailed step-by-step instruction for starting, summer operation, winter operation, and shutdown of each system.
 - 4. Copies of submittals having final review stamps.
 - 5. Manufacturer's bulletins, data, parts lists, operating and maintenance instructions, guarantees and any other information pertinent to the proper operation of each system and item of equipment installed.
 - 6. Copy of each automatic control diagram with respective sequence of operation.
 - 7. Copy of each valve chart.
 - 8. Information of actions to be taken in the event of a malfunction or other emergency.
 - 9. Time schedule for recommended maintenance operation.
- C. At least two weeks prior to the scheduled instruction of Owner's representatives, provide the Architect with five (5) complete copies of the final form of the Operation and Maintenance Manual, bound in booklet form in durable binders, suitable indexed with labeled tabs for each item.

1.16 WARRANTY:

- A. The Contractor shall warrant that all work installed will be free from any and all defects, and that all apparatus will develop capacities and characteristics specified, and that if, during a period of one (1) year from date of completion and acceptance of the work, any such defects in workmanship, materials, or performance appear, the Contractor shall immediately replace,

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repair or otherwise correct the defect or deficiency without cost and within a reasonable time to be specified in writing to the Owner.

- B. The Contractor shall also replace or repair, to the satisfaction of the Owner and Architect, all damage done to any material or finish in consequence of work performed in fulfilling the warranty.
- C. In the case of default on this warranty by the Contractor, the Owner may have such work done as required, and charge the cost to the Contractor.

1.17 VISITING THE SITE:

- A. Before submitting a final proposal, the Contractor shall examine the site of the proposed work to determine the existing conditions that affect the work. The Contractor will be held responsible for any assumptions made by him in regard thereto. Time for this examination must have prior approval of the Owner.
- B. No subsequent allowance for time or money will be considered for any consequence related to failure to examine site conditions. All existing systems shall remain in operation at all times except as otherwise arranged under shutdowns.

1.18 FINAL ACCEPTANCE:

- A. Preliminary Procedures: Before requesting final inspection for certification of final acceptance and final payment, complete the following list.
 - 1. Submit the final payment request to the Architect with releases and supporting documentation not previously submitted and accepted. Include certificates of insurance for products and completed operations where required.
 - 2. Submit an updated final statement to the Architect, accounting for final additional changes to the Contract Sum.
 - 3. Submit a certified copy of the Architect's Final Inspection list of items to be completed or corrected, stating that each item has been completed or corrected, stating that each item has been completed or otherwise resolved for acceptance, and the list has been endorsed and dated by the Architect.
 - 4. Submit consent of surety to final payment.
 - 5. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
- B. Reinspection Procedure: The Architect will reinspect the Work upon receipt of notice from the Contractor that the Work, including Final Inspection list items from earlier inspections, has been completed, except items whose completion has been delayed because of circumstances acceptable to the Architect.

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1. Upon Completion of reinspection, the Architect will prepare a certificate of final acceptance, or advise the Contractor of Work that is incomplete or of obligations that have not been fulfilled but are required for final acceptance.
2. If necessary, reinspection will be repeated, and the Contractor will bear the cost.

PART 2 PRODUCTS

2.1 MANUFACTURER'S IDENTIFICATION:

- A. Manufacturer's nameplate, name, or trademark shall be permanently affixed to all equipment and material furnished under this Specification. The nameplate of a subcontractor or distributor will not be acceptable.

2.2 NAMEPLATES:

- A. Provide for each item of equipment, including controls, a permanently attached nameplate made of laminated bakelite with incised letters; nameplate shall have black surface and white core.
- B. Nameplates shall be a minimum of 3" long by 1-1/2" wide and shall bear the equipment name and item as designated in the equipment schedule.
- C. All panel directories shall be typed, indicating what each circuit breaker or fuse controls.
- D. Tape labels embossed adhesive tape 3/16" white letters on black background.
- E. Wire and cable markers: Cloth markers split sleeve or tubing type.

2.4 SLEEVES, INSERTS AND ANCHOR BOLTS:

- A. Each Section of Division 16 shall be responsible for the location and proper position of sleeves and anchor bolts. If failure to do so requires cutting and patching of finished work, it shall be done at no extra cost to the Owner.
- B. Sleeves through concrete floors or interior masonry walls shall be Schedule 40 black steel pipe, set flush with wall, floor or ceiling surface. Sleeves through floors shall be sealed with a fireproof, resilient material to maintain the fire rating integrity of the assembly.

2.6 MATERIALS AND EQUIPMENT:

- A. Prior to ordering or use of any material or equipment, it shall be the sole responsibility of the Contractor to ensure that the manufacturer certifies in writing that all material and equipment supplied is suitable and approved by code, and in accordance with the manufacturer's

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recommendations and installation instructions for use in the particular manner and location intended. Contractor shall make due allowance for this in the bid and shall include any accessories or revisions required at no additional charge.

- B. New materials and equipment installed into existing work shall be compatible with the existing work. The Contractor shall advise the Architect before ordering and/or installing any materials or equipment if he disputes those items and/or methods specified. Otherwise, the Contractor shall take full responsibility for their performance and suitability. Only new materials and/or equipment shall be used.

PART 3 EXECUTION

3.1 PROTECTION OF WORK AND PROPERTY:

- A. The Contractor shall be responsible for the maintenance and protection of all equipment, materials and tools supplied by the Contractor and stored or installed on the job site, from loss or damage of all causes, until final acceptance by the Owner.
- B. The Contractor shall be responsible for the protection of any finished work of other trades from damage or defacement by the Contractor's operation and must remedy any such injury at the Contractor's own expense.

3.2 SCAFFOLDING, RIGGING, AND HOISTING:

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

3.3 CUTTING, PATCHING, EXCAVATION AND BACKFILL:

- A. All cutting, patching, excavation and backfill shall be provided by other Divisions. Coordinate all requirements well in advance.

3.4 ACCESSIBILITY:

- A. The Contractor shall install all items so that parts requiring inspection, maintenance and repair are readily accessible. Minor deviations from the Drawings may be made to accomplish this, but changes of magnitude shall not be made without prior written approval of the Architect.

3.5 SEISMIC REQUIREMENTS:

- A. All new electrical equipment, wiring and conduit shall be installed to resist vertical and lateral forces in accordance with the State Building Code and applicable regional seismic codes, with the exception of the following:

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- B. Acceptable Manufacturers: Subject to compliance with requirements, provide products of one of the following manufacturers.

Seismic Restraints:

1. Mason Industries, Inc.
2. Vibration Eliminator Co., Inc.
3. Vibration Mountings and Controls, Inc.

3.6 QUIET OPERATION:

- A. All equipment and material provided by the Contractor shall operate under all conditions of load without any sound or vibration which in the opinion of the Architect is objectionable. Where sound or vibration is objectionable in the opinion of the Architect, the Contractor shall eliminate it in a manner approved by the Architect.

3.7 PAINTING:

- A. Other Divisions shall clean and paint all new exposed, unpainted, non-galvanized, metal surfaces of pipes, conduits, equipment, hangers, supports and accessories with one (1) prime coat and two (2) finish coats. Coordinate all requirements well in advance.

3.8 CLEANING OF CONDUIT AND EQUIPMENT:

- A. Clean exposed conduit equipment and fixtures. Repair damaged finishes and leave everything in working order satisfactory to the Architect.
- B. Thoroughly clean all equipment inside and outside of all foreign substances before being placed into operation. If any part of a system should be stopped by any foreign matter after being placed in operation, the system shall be disconnected, cleaned and reconnected wherever necessary to locate and remove obstructions. Any work damaged in the course of removing obstructions shall be repaired or replaced when the system is reconnected, at no additional cost to the Owner.

3.9 TESTS:

- A. All equipment shall be tested as determined by all authorities having jurisdiction, but in no case less than that specified under each section of the Specifications. Labor, materials, instruments and power required for testing shall be furnished by the Contractor, unless otherwise indicated under the particular section of the Specifications.
- B. Tests shall be performed to the satisfaction of the Architect and such other parties as may have legal jurisdiction.
- C. All defective work shall be promptly repaired or replaced and the tests shall be repeated until the particular system and component parts thereof receive the approval of the Architect.
- D. Any damages resulting from tests shall be repaired and damaged materials replaced, all to the satisfaction of the Architect.

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- E. Equipment and systems which normally operate during certain seasons of the year shall be tested during the appropriate season. Tests shall be performed on individual equipment, systems and their controls. Whenever the equipment of a system under test is interrelated with, and depends upon, the operation of other equipment, systems and controls for proper operation, functioning and performance, the latter shall be operated simultaneously with the equipment or system being tested.

3.10 INSTALLATION OF LABELS AND MARKERS:

- A. Decrease and clean surfaces to receive nameplates and labels.
- B. Install nameplates (and tape labels) parallel to equipment lines.
- C. Secure nameplates to equipment fronts using screws, rivets, or adhesive. Secure nameplate to inside face of recessed panelboard doors in finished locations.
- D. Embossed tape will not be permitted for any applications.
- E. Apply typed tape labels to inside of all receptacles and light switchplates to indicate panel and circuit that items is fed from.
- F. Add the following WIRE IDENTIFICATION specification.
 - 1. Provide wire markers on each conductor in panelboard gutters, pullboxes, junction boxes, and at load connection. Identify with branch circuit or feeder number for power and lighting circuits.
- G. Nameplate Engraving Schedule
 - 1. Provide nameplates of minimum letter height as schedule below.
 - 2. Panelboards: 1/4 inch; identify equipment designation 1/8 inch; identify voltage rating and source.
 - 3. Individual circuit breakers, and switches, in panelboards: 1/8 inch; identify circuit and load served, including location.
 - 4. Individual circuit breakers, enclosed switches, and motor starters: 1/8 inch; identify load served.

END OF SECTION 16010

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PART 1 - GENERAL

1.1 RELATED DOCUMENTS:

- A. The Drawings and general provisions of the Contract, including General and Supplementary Conditions, and Division 1, General Requirements, apply to work specified in this Section.
- B. The requirements specified in Section 16010, "Basic Electrical Requirements", apply to this Section.

1.2 INCLUDED IN THIS SECTION:

- A. Complete Secondary Distribution System
- B. Circuit Breakers and Panelboards
- C. Feeders and Branch Circuits
- D. Wiring of equipment being furnished by others.
- E. Testing and Load Balancing.
- F. Exterior Electrical Enclosure.

1.3 DESCRIPTION OF WORK:

- A. This Section includes furnishing all labor and material to complete and make ready for operation by the Owner all electrical work as shown on the Drawings and as described in these specifications. It is the intent of these documents to terminate with complete, operational electrical systems within the building and on the project site.
- B. Circuit breakers thermal-magnetic molded case designed for operation on 120/240 volt system as manufactured by Square D, Seimens or Cutler Hammer.
- C. Wiring devices shall be of the type as indicated on the Drawings, and shall be manufactured by P&S, Hubbell, or Leviton.

1.4 CODES, REGULATIONS AND STANDARDS

- A. The electrical installation shall be in accordance with the current rules, regulations and recommendations of the local electrical inspection authority, the National Board of Fire Underwriters, the Electric Utility Company furnishing service, Local and State Ordinances. In the event of a conflict in code requirements, the local code shall apply. All permits and certificates as required shall be obtained and paid for by this Contractor. Approved Inspection Certificates by the authorities having jurisdiction shall be furnished with request for final payment.

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- B. All material and equipment shall conform to the applicable standards (current edition) of the following organizations.
1. National Electrical Manufacturers Assoc. (NEMA)
 2. Underwriters Laboratories (UL)
 3. Insulated Power Cable Engineers Assoc. (IPCEA)
 4. Institute of Electrical & Electronics Engineers (IEEE)
 5. American Society for Testing Materials (ASTM)
 6. Federal Specifications (U.S. Department of Commerce)
 7. Illuminating Engineers Society (IES)

1.5 SCOPE OF WORK:

- A. This Section includes the providing of all labor, materials, fixtures, equipment, accessories, services and tests necessary to complete and make ready for operation by the Owner all electrical work as shown on the Drawings and described in these Specifications. It is the intent of these Documents to terminate with complete, operational electrical systems within the building.
- B. The work shall include but not be limited to the following:
1. New Secondary Distribution System Complete.
 2. Receptacles.
 3. Circuit Breakers and Panelboards.
 4. Feeder and Branch Circuits.
 5. Exterior Electrical Enclosure.
 6. Testing and load balancing.
 7. Shop drawings and Record Drawings.
- C. Furnish all labor, materials, tools, transportation, equipment, services and facilities required for the complete and proper installation of all electrical work. All fixtures, devices and equipment shown, noted or required on the drawings and/or contained herein shall be connected from the source of electric power to the final connection, tested and made ready for satisfactory operation.
- D. This Section shall be responsible for knowledge of the areas that may affect his work for coordinating with the local inspection authorities and with all other trades on this project. This Section shall thoroughly coordinate all work with other Divisions and shall ensure that all equipment requiring electrical work be wired and incorporated as required in the basic work of the project.
- E. Make all field measurements and shall be responsible for their accuracy.
- F. The Specifications and Drawings are complimentary each to the other and that which is called for on one shall be as binding as if called for on both. In the event of a conflict, it shall be resolved by the Architect.

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- G. Any violation of the applicable electrical code standards or conflict between Drawings and Specifications not called to the attention of the Architect before the contract is executed shall be corrected at this Contractor's expense.
- H. This Section hereby waives all claim to extra compensation for work performed and materials furnished beyond the scope of the contract without written authorization by the Architect.

1.6 WORK BY OTHERS:

- A. Excavation, backfilling and concrete basis shall be furnished by other Divisions.

1.7 INSPECTIONS:

- A. This Section shall be responsible for the proper inspection of his work during its installation by all lawful authorities, shall take out and pay for all necessary permits, inspection fees and comply with all laws relating to persons employed on this work.

1.8 SHOP DRAWINGS:

- A. Submit five (5) copies of Product Data to the Architect in accordance with Section 15010 Basic Mechanical & Electrical Requirements.
- B. Submittals shall be given to the Architect for the following materials.
 - 1. Panelboards.
 - 2. Circuit Breaker.
 - 3. Wiring and Conduit.
 - 4. Devices.
 - 5. Exterior Electrical Enclosure.

PART 2 PRODUCTS

2.1 CONDUIT - RACEWAY AND FITTINGS:

- A. All raceways in soil shall be Schedule 40 PVC with PVC coated rigid steel elbows.
- B. All raceways in masonry, not noted otherwise, shall be run in Electrical Metallic Tubing (EMT) or rigid steel conduit.
- C. All exposed conduit shall be run in intermediate rigid steel conduit with threaded joints.
- D. Minimum size shall be 3/4" trade size unless otherwise noted.
- E. Exterior exposed raceways shall not be permitted unless specifically indicated otherwise.

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2.2 GROUNDING AND BONDING:

- A. Furnish and install an electrical grounding and bonding systems with assembly of materials, including, but not limited to, cables/wires, connectors, solderless lug terminals, grounding electrodes and plate electrodes, bonding jumper braid, surge arresters, and additional accessories needed for a complete installation. Where materials or components are not indicated, provide products which comply with NEC, UL, AND IEEE requirements.

2.3 WIRING:

- A. Single conductor cables shall be used for feeders and branch circuit wiring. Minimum wire size shall be No. 12 A.W.G. unless indicated otherwise. Wire sizes No. 8 A.W.G. and smaller shall be solid. No. 6 A.W.G. and larger shall be stranded. All conductors shall be of 98 percent conductivity copper only.
- B. All wiring shall be 600 volt code type "THHN/THWN"

2.4 OUTLET BOXES:

- A. Outlet boxes shall be of sizes and type to accommodate: (1) structural conditions, (2) size and number of raceways and conductors or cables entering, and (3) device or fixture for which required.
- B. Outside lighting outlets shall have galvanized or cadmium plated cast iron boxes with gaskets, drilled and tapped to take fixture specified for these locations.
- C. Pull and splice boxes are not indicated on drawings but shall be provided as required for splice and ease of pulling conductors and NEC requirements.

2.5 MISCELLANEOUS STEEL AND HARDWARE:

- A. Furnish and install all the necessary steel for supporting lighting fixtures, panels, starters, disconnects, conduit etc. "Kindorf" framing systems, rods, channels, and fittings with galvanized or cadmium finish shall be used. Unprotected ferrous metals shall not be permitted.

2.6 CIRCUIT BREAKER PANELBOARDS:

- A. Furnish and install circuit breaker lighting panelboards as indicated in the panelboard schedule and where shown on the plans. Panelboards shall be equipped with thermal-magnetic molded case circuit breakers with frame and trip ratings as shown on the schedule.

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- B. **Circuit Breakers:** Circuit breakers shall be quick-make, quick-break, thermal-magnetic, trip indicating, and have common trip on all multipole breakers. Trip indication shall be clearly shown by the breaker handle taking position between ON and OFF when the breaker is tripped. Branch circuit breakers feeding convenience outlets shall have sensitive instantaneous trip settings of not more than 10 times the trip rating of the breaker to prevent repeated arcing shorts resulting from frayed appliance cords. UL Class A (5 milliamperere sensitivity) ground fault circuit protection shall be provided on 120 Volt AC branch circuits as specified on the plans or panelboard schedule. This protection shall be an integral part of the branch circuit breaker which also provides overload and short circuit protection for branch circuit wiring. Tripping of a branch circuit breaker containing ground fault circuit interruption shall not disturb the feeder circuit to the panelboard.
- C. A single pole circuit breaker with integral ground fault circuit interruption shall require no more panelboard branch circuit space than a conventional single pole circuit breaker. Connections to the bus shall be bolt-on. (Provide interrupting capacity for all circuit breakers equal to or greater than the panel bus interrupting capacity). Where circuit breakers are used for switching lighting, provide "SWD" type breakers approved for that purpose as required, whether indicated or not.
- D. **Panelboard Bus Assembly:** Bus bar connections to the branch circuit breakers shall be the "distributed phase" or "phase sequence" type. Single phase, three-wire panelboard bussing shall be such that any two adjacent single-pole breakers are connected to opposite polarities in such a manner that two-pole breakers can be installed in any location. Three-phase, four-wire bussing shall be such that any three adjacent singlepole breakers are individually connected to each of the three different phases in such a manner that two or three-pole breakers can be installed at any location. All current-carrying parts of the buss assembly shall be plated. Mains ratings shall be as shown in the panelboard schedule or on the plans.
- E. **Wiring Terminals:** Terminals for feeder conductors to the panelboard mains and neutral shall be UL listed as suitable for the type of conductor specified. Terminals for branch circuit wiring, both breaker and neutral, shall be UL listed as suitable for the type of conductor specified.
- F. **Circuit Numbering:** Panelboard circuit numbering shall be such that starting at the top, odd numbers shall be used in sequence down the left and side and even numbers shall be used in sequence down the right-hand side.

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- G. Cabinets and Fronts: The panelboard bus assembly shall be enclosed in a steel cabinet. The size of the wiring gutters and gauge of steel shall be in accordance with NEMA Standards Publication No. PB1-1977 and UL Standards No. 67 for panelboards. The box shall be fabricated from galvanized steel or equivalent rust-resistant steel. Fronts shall include doors and have flush, stainless steel, cylinder tumbler-type locks with catches and spring-loaded door pulls. The flush lock shall not protrude beyond the front of the door. All panelboard locks shall be keyed alike. Fronts shall have adjustable indicating trim clamps which shall be completely concealed when the doors are closed. Doors shall be mounted by completely concealed steel hinges. Fronts shall not be removed with door in the locked position. A circuit directory frame and card with a clear plastic covering shall be provided on the inside of the door. The directory card shall provide a space at least 1/4" high x 3" long or equivalent for each circuit. The directory shall be typed to identify the load fed by each circuit. Fronts shall be of code gauge steel.
- H. Equipment Short Circuit Rating: Each panelboard, as a complete unit, shall have a short circuit current rating equal to or greater than the AIC rating of the existing main service switch (no series rating).
- I. UL Listing: Panelboards shall be listed by Underwriters Laboratories and bear the UL label. Panelboards shall be Square D, Siemens or Cutler Hammer, and designed for operation on 120/240 volts.

2.8 WIRING DEVICES:

- A. Where shown on the plans, furnish and install wiring devices indicated by the symbols and symbol list.
- B. Wiring devices shall be of the type as specified herein and shall be as manufactured by Pass & Seymour, Hubbell, or Arrow-Hart. Numbers specified refer to Pass & Seymour. Color ivory, confirm color with Architect.

Ground Fault: 20 AMP, 120V 2091-S-1

Plates shall be stainless steel, satin finish, Pass & Seymour S-IN Series For interior use, Intermatic #WP1010MC with locks (all locks shall be keyed alike) for exterior use.

2.9 METER SOCKET:

- A. Enclosures shall be constructed of formed and welded code gauge steel and comply with local Utility Company requirements.
- B. Meter sockets shall be 4-jaw non-circuit closing type with 5-jaw provisions or 5-jaw type with lever bypass and jaw release for use on 3 phase network systems. Sockets shall be rated 60 ampere continuous duty. Meter socket jaws are spring reinforced and front removable.
- C. The meter socket shall be UL listed with a short circuit current rating equal to or greater than

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the AIC rating of the secondary side of the utility company transformers. Approved manufacturers: Square D, Siemens or Cutler Hammer.

2.09 EXTERIOR ELECTRICAL ENCLOSURE:

- A. Furnish and install a pad mounted marine grade aluminum enclosure NEMA 3R rated by Erpel Design Corporation #LSD503617 with a 3/4" exterior grade plywood back board for mounting electrical equipment.
- B. The enclosures are manufactured from 0.125" 5052-H32 marine grade aluminum. All external hardware is stainless steel to provide a high degree of protection from corrosion. Internal hardware is stainless steel or zinc plated, meeting Fed. Spec. QQ-Z-235C Type 1.
- C. Smooth and free of blow holes, flaws, or imperfections, all seams are continuously welded (GTAW) or sealed (G.E. Silicone Sealant or equivalent) in the interior or on the exterior.

D. CABINET:

- 1. The enclosure has a sloped top to prevent water accumulation.
- 2. For NEMA 3R applications, the door has a louvered vent with retainer for a removable filter. Disposable paper filters are provided.
- 3. For interior flexibility, the enclosure is equipped with two AC@ mounting channels on both side walls and on the rear wall for mounting shelves or panels. Channels are adjustable and can be placed in any position front. to back or along the rear wall. Optionally, the channels can be welded in place.
- 4. The enclosure door opening is double flanges on all four sides. This feature not only provides additional strength, but prevent dirt and liquids from dropping into the enclosure when the door is opened.
- 5. All surfaces, edges, and openings are smooth and burr-free for worker safety and equipment protection.

E. DOORS:

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1. The cabinet is designed so that the leaves of the hinges are not exposed, making the hinges tamper-proof and presenting a neat and clean appearance. The cabinet door is attached to the body of the enclosure by means of a continuous 0.075" stainless steel piano-type hinge on the right side. It is bolted to the door and to the cabinet with 1/4-20 stainless steel carriage bolt sand Nylock nuts. Further, the 0.25" stainless steel hinge pin is welded top and bottom to prevent tampering.
2. The door is sealed with a closed cell neoprene gasket bonded to the inside of the door with an oil resistant adhesive.
3. The three point latching mechanism is designed with a heavy duty 3/4" stainless steel handle. This handle operates the 3/16" thick cam and two push rods made from 1/4"X3/4" aluminum bar. The push rods are twisted outward and have two 7/8" nylon rollers on the end of each rod to provide a smooth operation and secure seal to the enclosure.
4. Provision is made for padlocking the handle. On NEMA 3R enclosures a deadbolt type Corbin 1548-1 or equivalent lock with two keys is standard.
5. The enclosure has a interior door restraint that prevents the door from moving in windy conditions. The restraints hold the door in three positions - 95 deg., 120 deg., and 180 deg.

F. FINISHES:

1. Painted finishes, color selected by the Owner. Painted surfaces are first prepared by submersion in iron phosphate baths in a three step process. The metal is then baked to eliminate any moisture before painting.

PART 3 EXECUTION

3.1 CONDUIT - RACEWAY AND FITTINGS:

- A. All wiring shall be installed in a conduit or raceway.
- B. All metal conduit, enclosures and raceways for conductors shall be mechanically joined together to form a continuous electrical continuity and bond and shall be grounded as required by National Electrical Code.
- C. All conduit shall be concealed where possible and so installed so as not to damage or run through structural members. Exposed conduit shall be run parallel with or at right angles to

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the enclosure. Check the structural details and plans so that all conduits can be concealed, except conduits on surface-mounted panels and boxes and other locations as outlined in these specifications.

- D. All conduit shall be supported by approved hangers, racks, clamps or clips fastened to expansion inserts or lead anchors. Spacing of supports for conduits and raceways shall be in accordance with the National Electrical Code.
- D. Conduits shall be in full lengths wherever possible. All conduits shall be plugged with approved discs during construction and be dry and clean before pulling wires.
- F. All conduits that are laid underground, shall be approved by authorized inspectors before they are covered up in any way. Check the Structural and Architectural drawings and specifications before time of bidding, to verify all conditions.
- G. The inside and outside of all steel and flexible conduit, including factory-make elbows, and of all boxes and fittings, including bolts and screws, shall be protected against corrosion by an even coating of zinc.
- H. Where raceways are cut in the field, they shall be square cut using approved cutter. The cut ends shall be reamed to remove burrs and sharp edges. Threads cut on conduit in the field shall have the same effective length and the same thread dimensions and taper as the factory-cut conduit threads.
- I. Raceways shall be joined by means of threaded couplings or unions. Joints shall be set up tight. Runs shall be straight and true. Elbows, offsets and bends shall be uniform and symmetrical.
- J. All raceways shall be cleaned, prior to pulling in wire and cable. This cleaning shall remove all foreign matter, including water, from the raceways. All boxes in which the raceway terminates shall be cleaned of all concrete, mortar or other foreign matter and all threads in boxes shall be left clean and true upon completion of the work.
- K. Joints shall be set up tight. Couplings, connectors and fittings shall be approved types designed for the purpose.
- L. Furnish and install separate ground wire to ground all equipment.

3.2 BRANCH CIRCUITS:

- A. Furnish and install all conduits, outlets and wiring for lighting and equipment as shown on plans and/or as herein specified. Final connections to all equipment shall be made under this Division unless otherwise specifically noted elsewhere.
- B. All wire shall be factory color-coded with a separate color for phase, switch and neutral used consistently throughout. The neutral wire of all branch circuits shall be white. Green shall

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be used for equipment grounding conductors. Feeders shall be phase color coded at all access points.

- C. The installation of wires and cables includes all splicing of the wiring and cables to each other and connecting them to panelboards, receptacles, switches, controls, lighting fixtures, motors and all other electrical apparatus.
- D. Branch circuits shall be arranged to balance the loads on the phases of the panelboard feeders. Where 120 or 277 volt, three or four wire circuits are indicated, the circuit shall consist of separate phases and/or neutral. (Circuit numbers shown on drawings are for identification only.) Maximum unbalance shall not exceed 10 percent.
- E. All wires and cables shall be continuous from origin to destination without running splices. At the end of these wires and cables a sufficient slack shall be left as may be required for making proper connections.
- F. Conduits must be swabbed out and made thoroughly dry before pulling wire and cable.
- G. No grease or other compound which contains acids shall be used in pulling wires and cables.

3.3 GROUNDING AND BONDING:

- A. All non-current carrying metallic parts of electrical equipment, and conduits shall be securely grounded to a common ground bus and ground shall be connected to the water main, with a copper or brass pipe clamp, on the street side of the water service; jumpers shall be installed by-passing all valves.
- B. All grounding conductors shall be made with as few connections as possible. All connections shall be made with an approved type of solderless connector and shall be protected from mechanical injury.
- C. All contact surfaces shall be thoroughly cleaned before connection is made so as to insure a good metal-to-metal contact. Connections shall be readily accessible for inspection.
- D. The ground and bonding systems shall be in strict accordance with the latest edition of the National Electrical Code.

3.4 OUTLET BOXES:

- A. Outlet boxes and fittings shall be installed at each junction point of conduit.
- B. Boxes shall set plumb and true in building surface.

3.5 PANELBOARDS:

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- A. Panels shall be surface mounted with type, size, and number of branch circuit breakers as shown on Plans. All panelboards shall be aligned leveled and securely fastened to the building as recommended by the manufacturer and in accordance with State seismic requirements. Surface mounted panels shall be mounted at least 1" off the wall on suitable backboard which shall not block the vertical flow of air in back of panel. Flush mounted panels shall be installed to align with finished wall surfaces.
- B. Identify panelboards with laminated plastic name plates with engraved letters. Attach with screws.
- C. Typewritten circuit schedules in panelboard shall identify panelboard and each branch breaker.

3.6 WIRING FOR EQUIPMENT:

- A. Prior to commencing any work Contractor to coordinate all equipment requiring electrical connection (equipment, motors, controls, etc.) with respect to voltage and full load amps (FLA) and submit such coordination items to Engineer as equipment requiring electrical connection shop drawing. Failure of the Contractor to provide such shall mean the Contractor shall modify all wires, breakers, panels, switchboards, etc. as required by Engineer.
- B. All roughing work shall be installed in accordance with final dimensioned equipment shop drawings.

3.7 SERVICE:

- A. The service shall be as indicated on the Drawings and shall meet all National and Local Codes and the Utility Company's requirements.
- B. The Utility Company will provide overhead facilities, underground primary cables, main transformers, primary protective and disconnect devices, all generally as indicated on the plans. The Electrical Contractor shall provide secondary work from main transformer and ground grid. However, this Contractor shall be responsible for the entire service installation and include a \$5000.00 allowance for Utility Company charges. Utilization of such allowance shall be as directed by architect.
- C. Provide metering sockets, current transformer provisions, all in type and style as approved by the Utility Company and located as shown on the drawings.
- D. Secondary service characteristics shall be 120/240 volt, 1 phase, 3 wire.

END OF SECTION 16100

SECTION 3

GENERAL INFORMATION FOR PREPARATION AND DELIVERY OF A RESPONSE

Rev. 050809

Definitions:

Bid or Proposal refers to any form of solicitation the City may use such as a Request for Bids (RFB), Request for Proposals (RFP) or request for Response (RFR).

Candidate or Respondent refers to an individual or company who is considering or has submitted a response to a solicitation. This is also commonly referred to as "bidder."

City refers to the City of Hartford, the Hartford Public Schools and any other governmental entity participating in the RFR process and/or resulting award(s).

Provider refers to the Candidate or Candidates who receive an award and who enter into a contract with the City.

3.1 HOW TO RESPOND: Supply the required information on and along with the response form. An explicit agent of your organization must sign the response form and any supplementary proposal document and *submit it to the address indicated in Section 1.0 – Response Checklist.*

Mark the original response package as "ORIGINAL" on the front cover. We will open the response upon receipt if this information is not provided on the face of the envelope. In this case the City cannot be held responsible for the confidentiality of the response.

A. Do not wait until the due day to begin to prepare your response. Preparing your response early helps avoid issues related to computer equipment or Internet access malfunction. It is the Candidate's responsibility to ensure that responses are received in their entirety, on time and at the required location.

B. Reserve

C. A certified check or bid bond, *when required*, will be specified in the Invitation to Respond and must accompany your response in the amount indicated. Certified checks will be returned to all unsuccessful Candidates upon the awarding of the contract. The successful Candidate's surety shall be held pending receipt of payment and performance bonds and execution of contract.

Bonds may be delivered via an electronic bid bond service such as Surety 2000, (www.surety2000.com) scanned and attached to your on-line submission*, mailed or hand delivered. *If you elect to scan and attach your bond to an on-line submission, the original surety documents must be delivered to the address in (F) below within one working day of the response deadline.

If your response is not accompanied by a bond, certified check or proof that a valid bond has been obtained at the RFR opening it may be rejected.

If you manage a **small business** and have difficulty obtaining bonds (or just haven't done it before) help is available from the Small Business Administration (SBA) through "The Surety Bond Guarantee Program." One of the bonding companies working with this program is Suggs & Associates in Windsor, CT. For more information go to www.sba.gov, choose "Services." Then select "Financial Assistance" and click on "Surety Bond."

D. The successful Candidate may be required to furnish a performance bond and payment bonds, each for the full contract amount, prior to execution of a contract and/or performance under Purchase Orders. Indicate the cost for these bonds, to be added to the contract sum on the response form. 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 capital in surplus tied to any one risk.

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

E. *The electronic files, from which you printed your hard copy proposal, are to be emailed to the buyer identified at the bottom of the Invitation to Respond within one hour **AFTER** the deadline for submitting hard copy responses.* Email transmission of these documents is not encrypted and locked so if you transmit this information before the hard copy response

deadline it may be viewed prematurely. The City is not responsible for the confidentiality of information transmitted via fax, email or other electronic means.

You may convert Word documents to pdf files (in fact we would prefer this). Excel worksheets however may not be submitted as pdf files.

The purpose of submitting these files is to reduce duplicate data entry and shorten the time needed for City staff to create the response summary. These electronic files will not serve as a substitute for the hard copy response that must be submitted by the RFR deadline.

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

3.2 CORRECTION OR WITHDRAWAL OF BIDS; CANCELLATION OF AWARDS. Correction or withdrawal of inadvertently erroneous bids, including corrections to pricing if the accurate price can be derived from the bid response submitted prior to the bid deadline, before or after award, or cancellation of awards of Contracts or Purchase Orders based on such mistakes, shall be permitted with the approval, in writing, of the Procurement Manager.

3.3 QUANTITIES AND/OR USAGES: Quantities and/or usages are estimates only and in no way represent a commitment and/or intent to purchase the estimated amount. Actual quantities and delivery points may vary. The City reserves the right to order all quantities that may be needed, at the contract price, during the contract term regardless of the estimates provided in this RFR.

3.4 QUESTIONS & ADDENDA: Supplementary information, if issued, will be placed on the State of Connecticut, DAS website http://www.das.state.ct.us/Purchase/Portal/Portal_Home.asp. Candidates are responsible for obtaining all addenda related to this RFR. Candidates are advised to check for any addenda a minimum of twenty-four hours in advance of the response deadline.

Questions related to this project must be received in writing 72 hours in advance of the response submittal deadline. We strongly recommend that prospective Candidates review specifications early in the solicitation process and submit all questions at one time. Written questions are to be sent to the buyer whose name appears on the invitation to bid via email.

Responses shall be in writing, posted, in the form of an addendum on the State of Connecticut, DAS website http://www.das.state.ct.us/Purchase/Portal/Portal_Home.asp.

All communications related to this project are to be directed through the Department managing the RFR. This is the Department listed for receipt of responses in Section 1.0. In most cases this will be the Procurement Services Department. *Candidates found to be communicating with City or School staff outside of Procurement Services (or the Department indicated in Section 1.0) will have their response rejected.* The City of Hartford, the Public Schools, or its agents shall not be responsible for any oral instructions or interpretations given to a Candidate.

3.5 CRITERIA FOR AWARD: This Request for Response (RFR) does not necessarily contemplate an award based solely on price. Rather, the City reserves its rights to accept or reject any or all responses or any portion thereof that it may determine to be in its own best interests, for whatever reason.

3.6 QUALIFICATIONS OF CANDIDATES OFFERING A RESPONSE: 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.

Each Candidate agrees to furnish the City any additional information requested.

If this RFR is set-aside for award to a small, minority or women owned business enterprise you must receive certification prior to award. This program is described in Sec. 2-660 of the Hartford Municipal Code and can be found at:

<http://www.hartford.gov/purchasing/Documents.htm>. Qualified business, not currently certified, may obtain application forms from:

http://www.hartford.gov/human_relations/ohr2.0/MWBE%20Certification.htm.

3.7 THE REQUEST FOR RESPONSE (RFR) PROCESS: Solicitations are advertised as required by law. The City may also send 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 Procurement Manager the City may remove vendors from the mailing list for whatever reason including a poor performance history or failure to respond to previous invitations.

3.8 CONTRACTING: The City reserves the right to require the successful Candidate to execute a contract in a format supplied by the City. The terms and conditions of the contract to be signed upon the award of the RFR will supersede any inconsistent provision of the RFR documents. If the Candidate receiving a full or partial award fails to execute a contract as required, they shall be liable for, and agree to pay, on demand, the difference between the price bid and the price for which such contract is subsequently re-awarded, including the administrative cost of reissuing the contract. These costs will be recovered through the bid bond, if submitted, and any remaining sums due will be paid by the Candidate.

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

- (a) The approval of such governmental agencies as may be required by law.
- (b) The appropriation of adequate funds by the proper agencies.
- (c) Compliance with all applicable laws, regulation, ordinances and codes of the United States, the State of Connecticut and the City of Hartford. Sections of Hartford's Code which are most often applicable such as Living Wage for services and Set-aside program for Small and Minority business enterprises are posted at: <http://www.hartford.gov/purchasing/documents.htm>. The entire City Code is available at off the City's Home page: <http://www.hartford.gov>.
- (d) The selected Candidate must be current in all tax or any other monetary obligation owed to the City of Hartford.
- (e) The selected Candidate must have a current EEO certification (see section 3.10) on file with the City.
- (f) If the Candidate 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.

In the event the intention of this bid is to create a term contract for on-call construction services and unless otherwise indicated, the duration of the Contract will be one (1) year. Further, Contract terms may be negotiated on award anniversaries. City Ordinance Sec 2-558 (C) allows for a maximum of three Contract extensions provided that the funds are available, approved by the City for this purpose and that the Contractor has established a satisfactory performance record.

Notwithstanding the failure of City to exercise any option to renew this contract for an additional year, the Managing Authority reserves the right to unilaterally extend this contract on a month to month basis for a period not to exceed three (3) months under the same terms and conditions applicable to the preceding contract period.

3.9 CONTRACT DOCUMENTS The Contract documents consist of the Agreement between Owner and Contractor (hereinafter the Agreement), this Request for Response (RFR) and its referenced documents, General and Supplementary Conditions, drawings, any Addenda issued, the Contractor's response to the RFR, other documents listed in the Agreement and Modifications issued after execution of the Contract. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a Construction Change Directive or (4) a written order for a Minor change in the Work issued by the Design Professional on behalf of the City; the Contract Documents do include other documents such as bidding requirements.

3.10 OBLIGATIONS OF THE CANDIDATE: At the time of the opening of proposals, each Candidate will be presumed to be thoroughly familiar with the City's requirements, and the objectives for each element of the project, item or service. A plea of mistake in the accepted response shall not be available to the Candidate for the recovery of the bid surety or as a defense to any action based upon an accepted response.

3.11 REQUIRED FORMS:

a) Candidate's EEO Report: As a condition of doing business with the City the selected respondent must be certified by the City as an Equal Employment Opportunity Employer. Certifications must be renewed annually. If your firm is not currently certified you may download and complete the required forms from: <http://www.hartford.gov/purchasing/documents.htm>. Submit completed forms with your response. To check the current status of your EEO certification contact the Office of Human Relations, 860.757.9785, fax 860.722.6486 or email: lmacruz@hartford.gov.

If your company employs four (4) or more people, please submit your EEO Policy Statement with your Response.

b) Taxpayer's Identification Number: Every respondent must provide their Taxpayer Identification Number on the response form. Award recipients, whether an individual, proprietor, partnership or a non-profit corporation or organization must file the Internal Revenue Service Form W-9, Request for Taxpayer Identification Number and Certification with the City.

3.12 SITE INSPECTION: Information contained in these documents is provided in good faith only that all Candidates may have access to the same information utilized by the City, and is not intended as a substitute for personal investigations, interpretations and judgment of the Candidate. As information may be approximated or incomplete, Candidates should conduct a thorough inspection or study of existing conditions/equipment. Any discrepancy, or need for clarification must be brought to the attention of the Architect/Engineer prior to the bid opening.

Submission of a bid shall be evidence that the Candidate has examined the site, compared it with the drawings and specifications and satisfied itself of the conditions existing at the site, the storage and handling of materials, and all other matters incidental to the work under this contract.

No additional compensation will be allowed for difficulties which the Candidate could have discovered or reasonably anticipated prior to bidding.

3.13 PREVAILING WAGES: Pursuant to Section 2-559 (B), Required Provisions. Each Agreement for the construction, remodeling or repair of any Infrastructure Facilities shall contain both of the following provisions:

(1) "The wages paid to any mechanic, laborer or workman employed upon the work herein contracted to be done shall be at a rate equal to the prevailing wage rate in the State of Connecticut and or federal government, whichever is applicable, for the same work in the same trade or occupation."

(2) "Each contractor and subcontractor, or an authorized officer or employee, responsible for supervision of the payment of wages shall submit, on a weekly basis within seven (7) days after the regular payment date of the payroll period, to the Director of the Office of Human Relations of the City, a "Weekly Certified Statement of Compliance." Due and timely compliance with this provision shall be a condition precedent to the approval and transmittal of the next and succeeding payments by the city or its authorized officers or agents to the contractor under the terms of this agreement."

3.14 RETAINAGE: When progress payments are being made for items being built or designed, the City may retain 5% of the total project cost until such time as a satisfactory guarantee bond, if required, is posted with the City, or other terms for retainage, as may be specified in the contract for this project, are met.

3.15 ACCEPTABLE BRANDS: The RFR 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 Provider.

Final determination as to what is an "or equal" product will be made by the Procurement Manager 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.

3.16 SAMPLES: Samples are furnished free of charge and may be held for comparison with deliveries. Candidate must arrange for their return if desired.

Samples are assumed to meet, at a minimum, City specifications for quality. All deliveries shall have at least the same quality as the accepted proposal sample. Latent deficiencies will be remedied by the contractor at no additional cost, or loss of service, to the City.

3.17 RESPONSE DEVELOPMENT: Candidates are responsible for all costs and expenses incurred in the preparation of a response and for any subsequent work on the response that is required by the City of Hartford. Any submittal is the property of the City of Hartford and will not be returned.

3.18 REGISTERING WITH THE SECRETARY OF STATE: Generally a foreign (meaning out

of State) corporation or LLC must file with the Secretary of State Office to do business in the state. Foreign Corporations should review Sect. 33-920 of the Connecticut General Statutes. If they do not find that the exemptions apply to them they must file a "Certificate of Authority."

Foreign LLC's are covered under Sections 34-222 to 34-236. If the exemptions (in 34-235) do not apply to them they must file a "Certification of Registration."

Companies may obtain forms and more information from the Secretary of the State web site located at: <http://www.sots.ct.gov/CommercialRecording/Crdindex.html>. Their number is 860.509.6002.

The State of Connecticut General Statutes can be found at: http://search.cga.state.ct.us/dtsearch_pub_statutes.html. Enter the section number with hyphen and in the "In Database(s)" window select "Statutes - Section text."

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

3.20. PERFORMANCE BOND AND LABOR & MATERIAL BOND

The successful contractor will be required to submit a Performance Bond and Payment Bond in the amount of 100% of contract award within 10 days of award. Said bonds shall be issued by an Insurance Company and said surety companies must be listed on the current Federal Register, licensed in the State of Connecticut with an underwriting limitation exceeding the value of the project with no more than 5% of capital in surplus tied to any one risk.

3.21. INSURANCE

List the name and address of the bidder's insurance agent as part of the bid. The successful Contractor shall be required to furnish insurance coverage, acceptable to the City, within ten (10) days from notice of award and must name the City as an additional insured on the face of the document. The City's standard insurance requirements are available at <http://www.hartford.gov/purchasing/Documents.htm>. Download document #1007_Construction Insurance Requirements.

3.22 PERFORMANCE EVALUATION

The Contractor understands that during the course of and at the conclusion of the project that the City will evaluate his/her overall performance. Based on information gathered from the City's project management team, the Procurement Manager will assess factors including, but not limited to, quality of work or service, completion record, job supervision, working relationship with other providers, bills for extras, organization, cooperation, worksite cleanliness and compliance with City MBE requirements. The contractor further understands and agrees that this record will be available for public scrutiny both in the project file and on the City's website for a minimum of two years. The contractor will not contest the Procurement Manager's scoring which will be final.

3.23 SUBCONTRACTORS

The Bidder shall not subcontract any portion of the project to be performed unless the prior consent of the City is given for both the work to be subcontracted and the subcontractor to perform the same. The terms and conditions of the underlying contract between the City and Contractor will become part and parcel of the terms and conditions of each subcontract. The identities of subcontractors will be submitted after the bid opening.

For the Lump Sum Bid:

Bidders are required to indicate in the space provided on the response form:

- a. The nature of work to be performed by each subcontractor;
- b. The subcontractor's business name
- c. The dollar amount of the individual subcontract included in the base bid;
- d. The percentage of the value of the subcontract to the base bid;
- e. If the subcontractor is a woman / minority business enterprise currently certified by the City of Hartford.

For the Alternates:

Identify the information outlined in 3.23 a-e for any alternate bid item(s) separately.

3.24. MINORITY BUSINESS UTILIZATION (MBE)

Bidders are required to set-aside for Minority Businesses the portion of work specified in the "Construction Contract Summary" sheet located behind the cover sheet for this bid. Bidders are encouraged to exceed the set-aside requirement specified. The City's Minority Business listing as further described in section 3.6 shall be used by Bidders in selecting minority business contractors.

The sum of all minority business subcontracts shall be equal to or greater than the percentage specified in the "Construction Contract Summary Sheet" regardless of how the bid is awarded (base only or base plus one or more alternates). Failure to comply with the required percentage of minority business utilization will be cause for rejection of bid.

When alternate bid items are included in the proposal, the "Subcontractor Utilization Commitment" form should be completed separately for each alternate bid item.

3.24.1 City Certification Required

Bidders shall utilize Minority subcontractors who hold a current certification by the City of Hartford. Certifications by any other government entity shall not be sufficient to qualify the subcontractor to participate in the City of Hartford's minority business utilization preference program. In selecting its minority subcontractors, Bidder is cautioned to seek documented proof that its subcontractors hold valid certification by the City. Failure to identify City certified Minority Business subcontractors will be cause for rejection of bid.

3.24.2 Percentage of Work to be Performed

Designated MBE's shall perform at least 70% of the work with their own forces and as part of their own operations excluding the manufacture or purchase of proprietary products.

3.24.3. Minority Business Listing

A listing of Minority Businesses holding certification by the City of Hartford is available at http://www.hartford.gov/human_relations/regreportreformat.pdf or in the Office of Human Relations, 550 Main Street, Hartford, CT 06103. The City's listing of minority businesses is comprised of companies whereby at least 51% of the company is owned and operated by one or more of the following group persons: Black Americans, Hispanic Americans, Women, Asian Pacific Americans, Pacific Islanders, American Indians and descendants from the Iberian Peninsula. It should be understood that such listings are made available to assist Bidders in satisfying bid requirements; however, Bidder's selection of a subcontractor is its sole responsibility and all work performed under the contract shall be Bidder's sole responsibility. The City does not sponsor or recommend the selection of any one vendor. Certification by the City of Hartford as a minority business does not imply that the business is qualified to perform the work specified in this bid. The City reserves the right to request alternate minority subcontractors for whatever reason.

3.24.4. Proof of Minority Business Utilization Required

Prior to award of contract, the successful Bidder shall be required to file with the City Engineer

the actual form of subcontract with subcontractor(s) named in at least the minimum dollar value as stated in the "Subcontractor Utilization Commitment" form. The subcontract shall state the percentage of work which will be performed by the MBE with its own forces and as part of its operation. Failure to comply with proof of subcontract within 10 days of notification may result in the rejection of bid and may be cause for forfeiture of Bidders' bid surety. Further, the City reserves the right to monitor the performance and payment of such subcontracts; therefore, upon request by the City, the successful Bidder shall be required to furnish proof of payment to its subcontractors. Failure to comply with such monitoring requirements within ten days of written request will result in the withholding of payment to Bidder

3.24.5 Changes in Subcontractors after Award

The successful Bidder may not change subcontractor(s) after the contract has been let unless and until it has received written approval from the City of Hartford. Any such approval shall be based upon a written request by the Contractor or City, which details performance and/or other issues related to the subcontractor(s).

3.25 EQUAL EMPLOYMENT OPPORTUNITY/AFFIRMATIVE ACTION REQUIREMENTS

General Information

3.25.1 The successful Bidder, as a condition of being awarded this contract shall agree to comply with all contractual Equal Employment Opportunity/Affirmative Action performance requirements as outlined herein. All contractors, sub-contractors, vendors, and labor referral organizations must, as a condition of their participation upon city of Hartford capital construction projects, comply with the provisions of "Chapter 2, Article XII" of the Municipal Code and the "Greater Hartford Affirmative Action Plan" established pursuant thereto. All Bidders are directed to the Proposal section wherein special bid submittal items related to this section are outlined.

3.25.2 The successful Bidder, as requirement of final contract execution will additionally agree to comply with the following provisions:

- a. Sign and submit the document entitled "Equal Employment Opportunity Agreement and Certificate Pursuant To The Execution of a Contract With the City of Hartford, Connecticut".
- b. Sign and submit the document entitled "Affidavit For Becoming Signatory to the Greater Hartford Affirmative Action Plan".
- c. Submit a report of current company employment statistics on the included form. (See Bidding Requirements/Bid Proposal
- d. Submit a copy of company "Equal Employment Opportunity Policy Statement" properly signed by Company official on company letterhead.
- e. Submit an agreement to notify the Hartford Commission on Human Relations as to all employment openings occurring with the company during the pendency of this contract unless otherwise expressly prohibited by collective bargaining agreement (such agreements must be so identified where they exist).

These forms are available on-line at <http://www.hartford.gov/purchasing/Documents.htm> if not included in the Sample Form section.

3.25.3 The successful Bidder further agrees that the requirements as noted in paragraphs 3.25.2, a-e shall likewise apply to all on site construction sub-contractors.

3.25.4 Prior to contract award, the City of Hartford reserves the right to review a Bidders qualifications and ability to comply with the equal employment opportunity/affirmative action program requirements as contained in this bid document.

3.25.5 During the Performance of this contract, the contractor will agree to permit authorized City of Hartford staff to perform on-site project monitoring related to the contractual

equal employment opportunity/affirmative action performance requirements. The prime contractor, additionally agrees on behalf of his/her company and all subcontractors to submit the following reports during while performing under this contract:

- a. Payroll Certification Form within 10 working days of end of reporting month.
- b. Minority/Women Business Enterprise (M/WBE) Payment Status Reports (where applicable) upon request by the Commission on Human Relations.
- c. Status reports as to special training and/or employment residency requirements (where applicable) upon prescribed forms.

3.25.6 The successful Bidder shall agree that neither he/she nor any subcontractors will discharge, expel or otherwise discriminate against any person because he/she has opposed any unfair employment practice or because he/she has filed a complaint or testified or assisted in any proceeding under Section 31-127 of the Connecticut State Statutes. The advertisement of employment opportunities shall be carried out in such manner as not to restrict such employment so as to discriminate against individuals because of their race, creed, color, age, sex, national origin, physical or mental handicap, religion, or sexual orientation except in the case of a bona fide occupational qualification or need.

3.26. EEO/AFFIRMATIVE ACTION REPORT

As a condition of doing business with the City the selected Bidder must be certified by the City as an Equal Employment Opportunity Employer. Certifications must be renewed annually. If your firm is not currently certified you may obtain the required forms on-line at: <http://www.hartford.gov/purchasing/documents.htm> and submit completed forms with your response.

Note that the EEO form contains the Hartford Affirmative Action Plan. The terms and conditions of the Plan are an integral part of the Standard Contract between the City and successful Bidder. A sample report form is included in the "Sample Forms" section of this document. To check the current status of your EEO certification contact the Office of Human Relations, 860.757.9785, fax 860.722.6486 or email: lmacruz@hartford.gov.

3.26.1 Monthly Employment Utilization Report

The successful Bidder shall be required to submit a "Monthly Employment Utilization Report," (the form is provided in this Request for Bid). Bidder agrees to the following goals:

- a minimum of 15% of the total project hours by trade shall be allocated to minority workers.
- a goal of 50% of the total project hours by trade allocated to minority workers.
- a Hartford resident employment goal of 30% by trade.

The EEO Report (available at: <http://www.hartford.gov/purchasing/Documents.htm>), together with the Monthly Employment Utilization report submitted by Contractor will be used to determine compliance with this Affirmative Action Plan. Contractor understands and agrees that its failure to achieve and maintain the minimum minority participation stated herein will be considered a breach of contract.

Specific instructions for completing this form are provided directly on the back of the form. The form shall be submitted to the Human Relations Director, Municipal Building, 550 Main Street, Hartford, CT 06103. Extra copies of the form or assistance in completing the form may be had by calling or visiting the office of the Human Relations Director. It is imperative that this form be submitted on time; failure to do so will be grounds for the City's withholding of all further payments until the forms are received.

END OF SECTION

LABOR COMPLIANCE

Project: Sigourney Square Park Improvements

**Minimum Rates and Classifications
for Heavy/Highway Construction**

**Connecticut Department of Labor
Wage and Workplace Standards Division**

ID#: H 16345

By virtue of the authority vested in the Labor Commissioner under provisions of Section 31-53 of the General Statutes of Connecticut, as amended, the following are declared to be the prevailing rates and welfare payments and will apply only where the contract is advertised for bid within 20 days of the date on which the rates are established. Any contractor or subcontractor not obligated by agreement to pay to the welfare and pension fund shall pay this amount to each employee as part of his/her hourly wages.

Project Number: DPW12-06

Project Town Hartford

FAP Number:

State Number:

Project: Sigourney Square Park Improvements

CLASSIFICATION

Hourly Rate

Benefits

01) Asbestos/Toxic Waste Removal Laborers: Asbestos removal and encapsulation (except its removal from mechanical systems which are not to be scrapped), toxic waste removers, blasters. **See Laborers Group 5 and 7**

1) Boilermaker	33.79	34% + 8.96
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1a) Bricklayer, Cement Masons, Cement Finishers, Plasterers, Stone Masons	32.50	24.55
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2) Carpenters, Piledrivermen	29.11	20.29
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2a) Diver Tenders	29.11	20.29
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As of: Monday, April 16, 2012

Project: Sigourney Square Park Improvements

3) Divers	37.57	20.29
4) Painters: (Bridge Construction) Brush, Roller, Blasting (Sand, Water, etc.), Spray	41.35	16.35
4a) Painters: Brush and Roller	29.17	16.35
4b) Painters: Spray Only	31.47	15.40
4c) Painters: Steel Only	30.47	15.40
4d) Painters: Blast and Spray	32.17	16.35
4e) Painters: Tanks, Tower and Swing	31.17	16.35
5) Electrician (Trade License required: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9)	36.40	21.31

As of:

Monday, April 16, 2012

Project: Sigourney Square Park Improvements

6) Ironworkers: (Ornamental, Reinforcing, Structural, and Precast Concrete Erection)	33.50	27.03 + a
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7) Plumbers (Trade License required: (P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2) and Pipefitters (Including HVAC Work) (Trade License required: S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4 G-1, G-2, G-8, G-9)	38.67	24.46
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----LABORERS---- - Last updated 4/11/12

8) Group 1: Laborer (Unskilled), Common or General, acetylene burner, concrete specialist	25.80	16.45
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9) Group 2: Chain saw operators, fence and guard rail erectors, pneumatic tool operators, powdermen, air tool operator	26.05	16.45
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10) Group 3: Pipelayers (Installation of water, storm drainage or sewage lines outside of the building line with P6, P7 license)	26.30	16.45
--	-------	-------

11) Group 4: Jackhammer/Pavement breaker (handheld); mason tenders (cement/concrete), catch basin builders, asphalt rakers, air track operators, block pavers and curb setters	26.30	16.45
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12) Group 5: Toxic waste removal (non-mechanical systems)	27.80	16.45
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Project: Sigourney Square Park Improvements

13) Group 6: Blasters	27.55	16.45
Group 7: Asbestos Removal, non-mechanical systems (does not include leaded joint pipe)	26.80	16.45
Group 8: Traffic control signalmen	16.00	16.45
----LABORERS (TUNNEL CONSTRUCTION, FREE AIR). Shield Drive and Liner Plate Tunnels in Free Air.---- Last updated 4/11/12----		
13a) Miners, Motormen, Mucking Machine Operators, Nozzle Men, Grout Men, Shaft & Tunnel Steel & Rodmen, Shield & Erector, Arm Operator, Cable Tenders	31.28	16.45 + a
13b) Brakemen, Trackmen	30.37	16.45 + a
14) Concrete Workers, Form Movers, and Strippers	30.37	16.45 + a
15) Form Erectors	30.68	16.45 + a

As of:

Monday, April 16, 2012

Project: Sigourney Square Park Improvements

----ROCK SHAFT LINING, CONCRETE, LINING OF SAME AND
TUNNEL IN FREE AIR:----Last updated 4/11/12----

16) Brakemen, Trackmen, Tunnel Laborers, Shaft Laborers	30.37	16.45 + a
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17) Laborers Topside, Cage Tenders, Bellman	30.26	16.45 + a
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18) Miners	31.28	16.45 + a
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----TUNNELS, CAISSON AND CYLINDER WORK IN COMPRESSED
AIR: ----Last updated 4/11/12----

18a) Blaster	37.41	16.45 + a
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19) Brakemen, Trackmen, Groutman, Laborers, Outside Lock Tender, Gauge Tenders	37.22	16.45 + a
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20) Change House Attendants, Powder Watchmen, Top on Iron Bolts	35.35	16.45 + a
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As of:

Monday, April 16, 2012

Project: Sigourney Square Park Improvements

21) Mucking Machine Operator	37.97	16.45 + a
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----TRUCK DRIVERS----(*see note below)

Two axle trucks	27.88	17.22 + a
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Three axle trucks; two axle ready mix	27.98	17.22 + a
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Three axle ready mix	28.03	17.22 + a
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Four axle trucks, heavy duty trailer (up to 40 tons)	28.08	17.22 + a
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Four axle ready-mix	28.13	17.22 + a
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Heavy duty trailer (40 tons and over)	28.33	17.22 + a
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As of:

Monday, April 16, 2012

Project: Sigourney Square Park Improvements

Specialized earth moving equipment other than conventional type on-the road trucks and semi-trailer (including Euclids)	28.13	17.22 + a
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----POWER EQUIPMENT OPERATORS----

Group 1: Crane handling or erecting structural steel or stone, hoisting engineer (2 drums or over), front end loader (7 cubic yards or over), Work Boat 26 ft. & Over. (Trade License Required)	35.50	20.50 + a
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Group 2: Cranes (100 ton rate capacity and over); Backhoe/Excavator over 2 cubic yards; Piledriver (\$3.00 premium when operator controls hammer). (Trade License Required)	35.18	20.50 + a
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Group 3: Excavator/Backhoe under 2 cubic yards; Cranes (under 100 ton rated capacity), Gradall; Master Mechanic; Hoisting Engineer (all types of equipment where a drum and cable are used to hoist or drag material regardless of motive power of operation), Rubber Tire Excavator (Drott-1085 or similar); Grader Operator; Bulldozer Fine Grade (slopes, shaping, laser or GPS, etc.). (Trade License Required)	34.44	20.50 + a
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Group 4: Trenching Machines; Lighter Derrick; Concrete Finishing Machine; CMI Machine or Similar; Koehring Loader (Skooper)	34.05	20.50 + a
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Group 5: Specialty Railroad Equipment; Asphalt Paver; Asphalt Spreader; Asphalt Reclaiming Machine; Line Grinder; Concrete Pumps; Drills with Self Contained Power Units; Boring Machine; Post Hole Digger; Auger; Pounder; Well Digger; Milling Machine (over 24" Mandrell)	33.46	20.50 + a
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Group 5 continued: Side Boom; Combination Hoe and Loader; Directional Driller.	33.46	20.50 + a
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Project: Sigourney Square Park Improvements

Group 6: Front End Loader (3 up to 7 cubic yards); Bulldozer (rough grade dozer).	33.15	20.50 + a
Group 7: Asphalt Roller; Concrete Saws and Cutters (ride on types); Vermeer Concrete Cutter; Stump Grinder; Scraper; Snooper; Skidder; Milling Machine (24" and Under Mandrel).	32.81	20.50 + a
Group 8: Mechanic, Grease Truck Operator, Hydroblaster, Barrier Mover, Power Stone Spreader; Welder; Work Boat under 26 ft.; Transfer Machine.	32.41	20.50 + a
Group 9: Front End Loader (under 3 cubic yards), Skid Steer Loader regardless of attachments (Bobcat or Similar); Fork Lift, Power Chipper; Landscape Equipment (including hydroseeder).	31.98	20.50 + a
Group 10: Vibratory Hammer, Ice Machine, Diesel and Air Hammer, etc.	29.94	20.50 + a
Group 11: Conveyor, Earth Roller; Power Pavement Breaker (whiphammer), Robot Demolition Equipment.	29.94	20.50 + a
Group 12: Wellpoint Operator.	29.88	20.50 + a
Group 13: Compressor Battery Operator.	29.30	20.50 + a

Project: Sigourney Square Park Improvements

Group 14: Elevator Operator; Tow Motor Operator (Solid Tire No Rough Terrain).	28.16	20.50 + a
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Group 15: Generator Operator; Compressor Operator; Pump Operator; Welding Machine Operator; Heater Operator.	27.75	20.50 + a
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Group 16: Maintenance Engineer/Oiler	27.10	20.50 + a
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Group 17: Portable asphalt plant operator; portable crusher plant operator; portable concrete plant operator.	31.41	20.50 + a
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Group 18: Power Safety Boat; Vacuum Truck; Zim Mixer; Sweeper; (minimum for any job requiring CDL license).	28.99	20.50 + a
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****NOTE: SEE BELOW**

----LINE CONSTRUCTION----(Railroad Construction and Maintenance)----Last updated 9/3/2010----

20) Lineman, Cable Splicer, Dynamite Man	44.36	3% + 13.70
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Project: Sigourney Square Park Improvements

21) Heavy Equipment Operator	39.92	3% + 13.70
22) Equipment Operator, Tractor Trailer Driver, Material Men	37.71	3% + 13.70
23) Driver Groundmen	33.27	3% + 13.70
----LINE CONSTRUCTION----Last updated 4/17/09----		
24) Driver Groundmen	30.92	6.5% + 9.70
25) Groundmen	22.67	6.5% + 6.20
26) Heavy Equipment Operators	37.10	6.5% + 10.70
27) Linemen, Cable Splicers, Dynamite Men	41.22	6.5% + 12.20

As of:

Monday, April 16, 2012

Project: Sigourney Square Park Improvements

28) Material Men, Tractor Trailer Drivers, Equipment Operators

35.04

6.5% + 10.45

As of:

Monday, April 16, 2012

Project: Sigourney Square Park Improvements

Welders: Rate for craft to which welding is incidental.

**Note: Hazardous waste removal work receives additional \$1.25 per hour for truck drivers.*

***Note: Hazardous waste premium \$3.00 per hour over classified rate*

- Crane with 150 ft. boom (including jib) - \$1.50 extra
- Crane with 200 ft. boom (including jib) - \$2.50 extra
- Crane with 250 ft. boom (including jib) - \$5.00 extra
- Crane with 300 ft. boom (including jib) - \$7.00 extra
- Crane with 400 ft. boom (including jib) - \$10.00 extra

All classifications that indicate a percentage of the fringe benefits must be calculated at the percentage rate times the "base hourly rate".

Apprentices duly registered under the Commissioner of Labor's regulations on "Work Training Standards for Apprenticeship and Training Programs" Section 31-51-d-1 to 12, are allowed to be paid the appropriate percentage of the prevailing journeymen hourly base and the full fringe benefit rate, providing the work site ratio shall not be less than one full-time journeyman instructing and supervising the work of each apprentice in a specific trade.

~~Connecticut General Statute Section 31-55a: Annual Adjustments to wage rates by contractors doing state work ~~

The Prevailing wage rates applicable to this project are subject to annual adjustments each July 1st for the duration of the project.

Each contractor shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.

It is the contractor's responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's website.

The annual adjustments will be posted on the Department of Labor's Web page: www.ct.gov/dol.

The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project.

All subsequent annual adjustments will be posted on our Web Site for contractor access.

As of:

Monday, April 16, 2012

Project: Sigourney Square Park Improvements

Effective October 1, 2005 - Public Act 05-50: any person performing the work of any mechanic, laborer, or worker shall be paid prevailing wage

All Person who perform work ON SITE must be paid prevailing wage for the appropriate mechanic, laborer, or worker classification.

All certified payrolls must list the hours worked and wages paid to All Persons who perform work ON SITE regardless of their ownership i.e.: (Owners, Corporate Officers, LLC Members, Independent Contractors, et. al)

Reporting and payment of wages is required regardless of any contractual relationship alleged to exist between the contractor and such person.

~~Unlisted classifications needed for work not included within the scope of the classifications listed may be added after award only as provided in the labor standards contract clause (29 CFR 5.5 (a) (1) (ii)).

Please direct any questions which you may have pertaining to classification of work and payment of prevailing wages to the Wage and Workplace Standards Division, telephone (860)263-6790.

As of:

Monday, April 16, 2012

Sec. 31-53b. Construction safety and health course. New miner training program. Proof of completion required for mechanics, laborers and workers on public works projects. Enforcement. Regulations. Exceptions. (a) Each contract for a public works project entered into on or after July 1, 2009, by the state or any of its agents, or by any political subdivision of the state or any of its agents, described in subsection (g) of section 31-53, shall contain a provision requiring that each contractor furnish proof with the weekly certified payroll form for the first week each employee begins work on such project that any person performing the work of a mechanic, laborer or worker pursuant to the classifications of labor under section 31-53 on such public works project, pursuant to such contract, has completed a course of at least ten hours in duration in construction safety and health approved by the federal Occupational Safety and Health Administration or, has completed a new miner training program approved by the Federal Mine Safety and Health Administration in accordance with 30 CFR 48 or, in the case of telecommunications employees, has completed at least ten hours of training in accordance with 29 CFR 1910.268.

(b) Any person required to complete a course or program under subsection (a) of this section who has not completed the course or program shall be subject to removal from the worksite if the person does not provide documentation of having completed such course or program by the fifteenth day after the date the person is found to be in noncompliance. The Labor Commissioner or said commissioner's designee shall enforce this section.

(c) Not later than January 1, 2009, the Labor Commissioner shall adopt regulations, in accordance with the provisions of chapter 54, to implement the provisions of subsections (a) and (b) of this section. Such regulations shall require that the ten-hour construction safety and health courses required under subsection (a) of this section be conducted in accordance with federal Occupational Safety and Health Administration Training Institute standards, or in accordance with Federal Mine Safety and Health Administration Standards or in accordance with 29 CFR 1910.268, as appropriate. The Labor Commissioner shall accept as sufficient proof of compliance with the provisions of subsection (a) or (b) of this section a student course completion card issued by the federal Occupational Safety and Health Administration Training Institute, or such other proof of compliance said commissioner deems appropriate, dated no earlier than five years before the commencement date of such public works project.

(d) This section shall not apply to employees of public service companies, as defined in section 16-1, or drivers of commercial motor vehicles driving the vehicle on the public works project and delivering or picking up cargo from public works projects provided they perform no labor relating to the project other than the loading and unloading of their cargo.

(P.A. 06-175, S. 1; P.A. 08-83, S. 1.)

History: P.A. 08-83 amended Subsec. (a) by making provisions applicable to public works project contracts entered into on or after July 1, 2009, replacing provision re total cost of work with reference to Sec. 31-53(g), requiring proof in certified payroll form that new mechanic, laborer or worker has completed a 10-hour or more construction safety course and adding provision re new miner training program, amended Subsec. (b) by substituting "person" for "employee" and adding "or program", amended Subsec. (c) by adding "or in accordance with Federal Mine Safety and Health Administration Standards" and setting new deadline of January 1, 2009, deleted former Subsec. (d) re "public building", added new Subsec. (d) re exemptions for public service company employees and delivery drivers who perform no labor other than delivery and made conforming and technical changes, effective January 1, 2009.

Informational Bulletin

THE 10-HOUR OSHA CONSTRUCTION SAFETY AND HEALTH COURSE

(applicable to public building contracts entered into *on or after July 1, 2007*, where the total cost of all work to be performed is at least \$100,000)

- (1) This requirement was created by Public Act No. 06-175, which is codified in Section 31-53b of the Connecticut General Statutes (pertaining to the prevailing wage statutes);
- (2) The course is required for public building construction contracts (projects funded in whole or in part by the state or any political subdivision of the state) entered into on or after July 1, 2007;
- (3) It is required of private employees (not state or municipal employees) and apprentices who perform manual labor for a general contractor or subcontractor on a public building project where the total cost of all work to be performed is at least \$100,000;
- (4) The ten-hour construction course pertains to the ten-hour Outreach Course conducted in accordance with federal OSHA Training Institute standards, and, for telecommunications workers, a ten-hour training course conducted in accordance with federal OSHA standard, 29 CFR 1910.268;
- (5) The internet website for the federal OSHA Training Institute is http://www.osha.gov/fso/ote/training/edcenters/fact_sheet.html;
- (6) The statutory language leaves it to the contractor and its employees to determine who pays for the cost of the ten-hour Outreach Course;
- (7) Within 30 days of receiving a contract award, a general contractor must furnish proof to the Labor Commissioner that all employees and apprentices performing manual labor on the project will have completed such a course;
- (8) Proof of completion may be demonstrated through either: (a) the presentation of a *bona fide* student course completion card issued by the federal OSHA Training Institute; *or* (2) the presentation of documentation provided to an employee by a trainer certified by the Institute pending the actual issuance of the completion card;
- (9) Any card with an issuance date more than 5 years prior to the commencement date of the construction project shall not constitute proof of compliance;

- (10) Each employer shall affix a copy of the construction safety course completion card to the certified payroll submitted to the contracting agency in accordance with Conn. Gen. Stat. § 31-53(f) on which such employee's name first appears;
- (11) Any employee found to be in non-compliance shall be subject to removal from the worksite if such employee does not provide satisfactory proof of course completion to the Labor Commissioner by the fifteenth day after the date the employee is determined to be in noncompliance;
- (12) Any such employee who is determined to be in noncompliance may continue to work on a public building construction project for a maximum of fourteen consecutive calendar days while bringing his or her status into compliance;
- (13) The Labor Commissioner may make complaint to the prosecuting authorities regarding any employer or agent of the employer, or officer or agent of the corporation who files a false certified payroll with respect to the status of an employee who is performing manual labor on a public building construction project;
- (14) The statute provides the minimum standards required for the completion of a safety course by manual laborers on public construction contracts; any contractor can exceed these minimum requirements; and
- (15) Regulations clarifying the statute are currently in the regulatory process, and shall be posted on the CTDOL website as soon as they are adopted in final form.
- (16) Any questions regarding this statute may be directed to the Wage and Workplace Standards Division of the Connecticut Labor Department via the internet website of <http://www.ctdol.state.ct.us/wgwkstnd/wgemenu.htm>; or by telephone at (860)263-6790.

THE ABOVE INFORMATION IS PROVIDED EXCLUSIVELY AS AN EDUCATIONAL RESOURCE, AND IS NOT INTENDED AS A SUBSTITUTE FOR LEGAL INTERPRETATIONS WHICH MAY ULTIMATELY ARISE CONCERNING THE CONSTRUCTION OF THE STATUTE OR THE REGULATIONS.

November 29, 2006

Notice
To All Mason Contractors and Interested Parties
Regarding Construction Pursuant to Section 31-53 of the
Connecticut General Statutes (Prevailing Wage)

The Connecticut Labor Department Wage and Workplace Standards Division is empowered to enforce the prevailing wage rates on projects covered by the above referenced statute.

Over the past few years the Division has withheld enforcement of the rate in effect for workers who operate a forklift on a prevailing wage rate project due to a potential jurisdictional dispute.

The rate listed in the schedules and in our Occupational Bulletin (see enclosed) has been as follows:

Forklift Operator:

- **Laborers (Group 4) Mason Tenders** - operates forklift solely to assist a mason to a maximum height of nine feet only.
- **Power Equipment Operator (Group 9)** - operates forklift to assist any trade and to assist a mason to a height over nine feet.

The U.S. Labor Department conducted a survey of rates in Connecticut but it has not been published and the rate in effect remains as outlined in the above Occupational Bulletin.

Since this is a classification matter and not one of jurisdiction, effective January 1, 2007 the Connecticut Labor Department will enforce the rate on each schedule in accordance with our statutory authority.

Your cooperation in filing appropriate and accurate certified payrolls is appreciated.

STATUTE 31-55a

- SPECIAL NOTICE -

To All State and Political Subdivisions, Their Agents, and Contractors

Connecticut General Statute 31-55a - Annual adjustments to wage rates by contractors doing state work.

Each contractor that is awarded a contract on or after October 1, 2002, for (1) the construction of a state highway or bridge that falls under the provisions of section 31-54 of the general statutes, or (2) the construction, remodeling, refinishing, refurbishing, rehabilitation, alteration or repair of any public works project that falls under the provisions of section 31-53 of the general statutes shall contact the Labor Commissioner on or before July first of each year, for the duration of such contract, to ascertain the prevailing rate of wages on an hourly basis and the amount of payment or contributions paid or payable on behalf of each mechanic, laborer or worker employed upon the work contracted to be done, and shall make any necessary adjustments to such prevailing rate of wages and such payment or contributions paid or payable on behalf of each such employee, effective each July first.

- The prevailing wage rates applicable to any contract or subcontract awarded on or after October 1, 2002 are subject to annual adjustments each July 1st for the duration of any project which was originally advertised for bids on or after October 1, 2002.
- Each contractor affected by the above requirement shall pay the annual adjusted prevailing wage rate that is in effect each July 1st, as posted by the Department of Labor.
- It is the **contractor's** responsibility to obtain the annual adjusted prevailing wage rate increases directly from the Department of Labor's Web Site. The annual adjustments will be posted on the Department of Labor Web page: www.ctdol.state.ct.us. For those without internet access, please contact the division listed below.
- The Department of Labor will continue to issue the initial prevailing wage rate schedule to the Contracting Agency for the project. All subsequent annual adjustments will be posted on our Web Site for contractor access.

Any questions should be directed to the Contract Compliance Unit, Wage and Workplace Standards Division, Connecticut Department of Labor, 200 Folly Brook Blvd., Wethersfield, CT 06109 at (860)263-6790.

[Workplace Laws](#)

200 Folly Brook Boulevard, Wethersfield, CT 06109 / Phone: 860-263-6000

[ome](#) | [Send Feedback](#)<%end if%><%if cbool (request.Cookies(Application("HOME_NAME"))("AA"))=true and request.Cookies(Application("HOME_NAME"))("CA")<"CF83CBC7" then call Session_WriteString(" | [Admin](#)") end if%>

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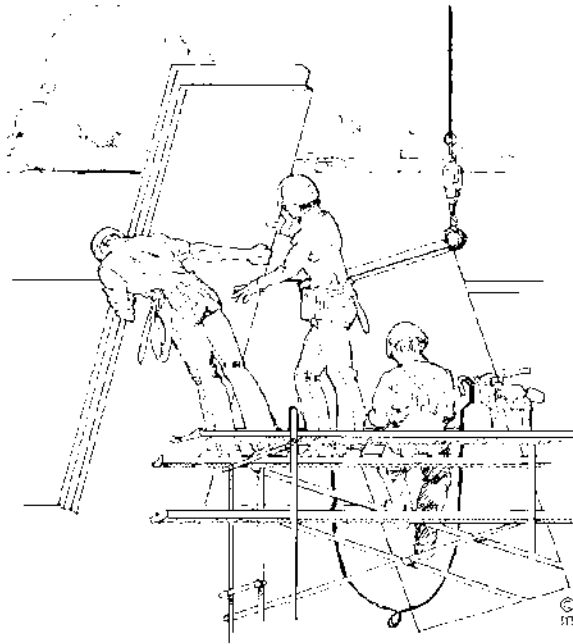
~NOTICE~

TO ALL CONTRACTING AGENCIES

Please be advised that Connecticut General Statutes Section 31-53, requires the contracting agency to certify to the Department of Labor, the total dollar amount of work to be done in connection with such public works project, regardless of whether such project consists of one or more contracts.

Please find the attached “Contracting Agency Certification Form” to be completed and returned to the Department of Labor, Wage and Workplace Standards Division, Public Contract Compliance Unit.

 Inquiries can be directed to (860)263-6543.



CONNECTICUT DEPARTMENT OF LABOR
WAGE AND WORKPLACE STANDARDS DIVISION
CONTRACT COMPLIANCE UNIT

CONTRACTING AGENCY CERTIFICATION FORM

I, _____, acting in my official capacity as _____,
authorized representative title

for _____, located at _____,
contracting agency address

do hereby certify that the total dollar amount of work to be done in connection with
_____, located at _____,
project name and number address

shall be \$_____, which includes all work, regardless of whether such project
consists of one or more contracts.

CONTRACTOR INFORMATION

Name: _____

Address: _____

Authorized Representative: _____

Approximate Starting Date: _____

Approximate Completion Date: _____

Signature

Date

Return To: Connecticut Department of Labor
Wage & Workplace Standards Division
Contract Compliance Unit
200 Folly Brook Blvd.
Wethersfield, CT 06109

Date Issued: _____

Certified Payroll Form WWS - CPI

You are here: [DOL Web Site](#) » [Wage and Workplace Standards](#) » Certified Payroll Form WWS - CPI

In accordance with [Connecticut General Statutes, 31-53](#) Certified Payrolls with a statement of compliance shall be submitted monthly to the contracting agency.

Note: Once you have downloaded these forms and are ready to print them out, set the print function on your PC to the horizontal print orientation.

Note2: Please download both the Payroll Certification for Public Works Projects **and** the Certified Statement of Compliance for a complete package. The Certified Statement of Compliance appears on the same page as the Fringe Benefits Explanation page.

Announcement: The Certified Payroll Form WWS-CPI can now be completed on-line!

- [Certified Payroll Form WWS-CPI](#) (PDF, 727KB)
- [Sample Completed Form](#) (PDF, 101KB)

Published by the Connecticut Department of Labor, Project Management Office
Last Updated: April 22, 2010

Occupational Classification Bulletin

You are here: [DOL Web Site](#) » [Wage and Workplace Standards](#) » Occupational Classification Bulletin

- [Informational Bulletin](#) (PDF, 448KB) **NEW!**

Published by the Connecticut Department of Labor, [Project Management Office](#)
Last Updated: [April](#) 22, 2010

Information Bulletin

Occupational Classifications

The Connecticut Department of Labor has the responsibility to properly determine "job classification" on prevailing wage projects covered under C.G.S. Section 31-53.

Note: This information is intended to provide a sample of some occupational classifications for guidance purposes only. It is not an all-inclusive list of each occupation's duties. This list is being provided only to highlight some areas where a contractor may be unclear regarding the proper classification.

Below are additional clarifications of specific job duties performed for certain classifications:

- **ASBESTOS WORKERS**

Applies all insulating materials, protective coverings, coatings and finishes to all types of mechanical systems.

- **ASBESTOS INSULATOR**

Handle, install apply, fabricate, distribute, prepare, alter, repair, dismantle, heat and frost insulation, including penetration and fire stopping work on all penetration fire stop systems.

- **BOILERMAKERS**

Erects hydro plants, incomplete vessels, steel stacks, storage tanks for water, fuel, etc. Builds incomplete boilers, repairs heat exchanges and steam generators.

- **BRICKLAYERS, CEMENT MASONS, CEMENT FINISHERS, MARBLE MASONS, PLASTERERS, STONE MASONS, PLASTERERS. STONE MASONS, TERRAZZO WORKERS, TILE SETTERS**

Lays building materials such as brick, structural tile and concrete cinder, glass, gypsum, terra cotta block. Cuts, tools and sets marble, sets stone, finishes concrete, applies decorative steel, aluminum and plastic tile, applies cements, sand, pigment and marble chips to floors, stairways, etc.

- **CARPENTERS, MILLWRIGHTS. PILEDRIVERMEN. LATHERS. RESILIENT FLOOR LAYERS, DOCK BUILDERS, DIKERS, DIVER TENDERS**

Constructs, erects, installs and repairs structures and fixtures of wood, plywood and wallboard. Installs, assembles, dismantles, moves industrial machinery. Drives piling into ground to provide foundations for structures such as buildings and bridges, retaining walls for earth embankments, such as cofferdams. Fastens wooden, metal or rockboard lath to walls, ceilings and partitions of buildings, acoustical tile layer, concrete form builder. Applies firestopping materials on fire resistive joint systems only. Installation of curtain/window walls only where attached to wood or metal studs. Installation of insulated material of all types whether blown, nailed or attached in other ways to walls, ceilings and floors of buildings. Assembly and installation of modular furniture/furniture systems. Free-standing furniture is not covered. This includes free standing: student chairs, study top desks, book box desks, computer furniture, dictionary stand, atlas stand, wood shelving, two-position information access station, file cabinets, storage cabinets, tables, etc.

- **CLEANING LABORER**

The clean up of any construction debris and the general cleaning, including sweeping, wash down, mopping, wiping of the construction facility, washing, polishing, dusting, etc., prior to the issuance of a certificate of occupancy falls under the *Labor classification*.

- **DELIVERY PERSONNEL**

If delivery of supplies/building materials is to one common point and stockpiled there, prevailing wages are not required. If the delivery personnel are involved in the distribution of the material to multiple locations within the construction site then they would have to be paid prevailing wages for the type of work performed: laborer, equipment operator, electrician, ironworker, plumber, etc.

An example of this would be where delivery of drywall is made to a building and the delivery personnel distribute the drywall from one "stockpile" location to further sub-locations on each floor. Distribution of material around a construction site is the job of a laborer/tradesman and not a delivery personnel.

- **ELECTRICIANS**

Install, erect, maintenance, alteration or repair of any wire, cable, conduit, etc., which generates, transforms, transmits or uses electrical energy for light, heat, power or other purposes, including the Installation or maintenance of telecommunication, LAN wiring or computer equipment, and low voltage wiring.

***License required per Connecticut General Statutes: E-1,2 L-5,6 C-5,6 T-1,2 L-1,2 V-1,2,7,8,9.**

- **ELEVATOR CONSTRUCTORS**

Install, erect, maintenance and repair of all types of elevators, escalators, dumb waiters and moving walks. ***License required by Connecticut General Statutes: R-1,2,5,6.**

- **FORK LIFT OPERATOR**

Laborers Group 4) Mason Tenders - operates forklift solely to assist a mason to a maximum height of nine (9) feet only.

Power Equipment Operator Group 9 - operates forklift to assist any trade, and to assist a mason to a height over nine (9) feet.

- **GLAZIERS**

Glazing wood and metal sash, doors, partitions, and 2 story aluminum storefronts. Installs glass windows, skylights, store fronts and display cases or surfaces such as building fronts, interior walls, ceilings and table tops and metal store fronts. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce.

- **IRONWORKERS**

Erection, installation and placement of structural steel, precast concrete, miscellaneous iron, ornamental iron, metal curtain wall, rigging and reinforcing steel. Handling, sorting, and installation of reinforcing steel (rebar). Metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation. Installation of aluminum window walls and curtain walls is the "joint" work of glaziers and ironworkers which requires either a blended rate or equal composite workforce. Insulated metal and insulated composite panels are still installed by the Ironworker.

- **INSULATOR**

Installing fire stopping systems/materials for "Penetration Firestop Systems": transit to cables, electrical conduits, insulated pipes, sprinkler pipe penetrations, ductwork behind radiation, electrical cable trays, fire rated pipe penetrations, natural polypropylene, HVAC ducts, plumbing bare metal, telephone and communication wires, and boiler room ceilings. Past practice using the applicable licensed trades, Plumber, Sheet Metal, Sprinkler Fitter, and Electrician, is not inconsistent with the Insulator classification and would be permitted.

- **LABORERS**

Acetylene burners, asphalt rakers, chain saw operators, concrete and power buggy operator, concrete saw operator, fence and guard rail erector (except metal bridge rail (traffic), metal bridge handrail, and decorative security fence installation.), hand operated concrete vibrator operator, mason tenders, pipelayers (installation of storm drainage or sewage lines on the street only), pneumatic drill operator, pneumatic gas and electric drill operator, powermen and wagon drill operator, air track operator, block paver, curb setters, blasters, concrete spreaders.

- **PAINTERS**

Maintenance, preparation, cleaning, blasting (water and sand, etc.), painting or application of any protective coatings of every description on all bridges and appurtenances of highways, roadways, and railroads. Painting, decorating, hardwood finishing, paper hanging, sign writing, scenic art work and drywall hhg for any and all types of building and residential work.

- **LEAD PAINT REMOVAL**

Painter's Rate

1. Removal of lead paint from bridges.
2. Removal of lead paint as preparation of any surface to be repainted.
3. Where removal is on a Demolition project prior to reconstruction.

Laborer's Rate

1. Removal of lead paint from any surface NOT to be repainted.
2. Where removal is on a *TOTAL* Demolition project only.

- **PLUMBERS AND PIPEFITTERS**

Installation, repair, replacement, alteration or maintenance of all plumbing, heating, cooling and piping. ****License required per Connecticut General Statutes: P-1,2,6,7,8,9 J-1,2,3,4 SP-1,2 S-1,2,3,4,5,6,7,8 B-1,2,3,4 D-1,2,3,4.***

- **POWER EQUIPMENT OPERATORS**

Operates several types of power construction equipment such as compressors, pumps, hoists, derricks, cranes, shovels, tractors, scrapers or motor graders, etc. Repairs and maintains equipment. ***License required, crane operators only, per Connecticut General Statutes.**

- **ROOFERS**

Covers roofs with composition shingles or sheets, wood shingles, slate or asphalt and gravel to waterproof roofs, including preparation of surface. (tear-off and/or removal of any type of roofing and/or clean-up of any and all areas where a roof is to be relaid)

- **SHEETMETAL WORKERS**

Fabricate, assembles, installs and repairs sheetmetal products and equipment in such areas as ventilation, air-conditioning, warm air heating, restaurant equipment, architectural sheet metal work, sheetmetal roofing, and aluminum gutters.

Fabrication, handling, assembling, erecting, altering, repairing, etc. of coated metal material panels and composite metal material panels when used on building exteriors and interiors as soffits, fascia, louvers, partitions, wall panel siding, canopies, cornice, column covers, awnings, beam covers, cladding, sun shades, lighting troughs, spires, ornamental roofing, metal ceilings, mansards, copings, ornamental and ventilation hoods, vertical and horizontal siding panels, trim, etc.

The sheet metal classification also applies to the vast variety of coated metal material panels and composite metal material panels that have evolved over the years as an alternative to conventional ferrous and non-ferrous metals like steel, iron, tin, copper, brass, bronze, aluminum, etc. Insulated metal and insulated composite panels are still installed by the Iron Worker. Fabrication, handling, assembling, erecting, altering, repairing, etc. of architectural metal roof, standing seam roof, composite metal roof, metal and composite bathroom/toilet partitions, aluminum gutters, metal and composite lockers and shelving, kitchen equipment, and walk-in coolers.

- **SPRINKLER FITTERS**

Installation, alteration, maintenance and repair of fire protection sprinkler systems.

***License required per Connecticut General Statutes: F-1,2,3,4.**

- **TILE MARBLE AND TERRAZZO FINISHERS**

Assists and tends the tile setter, marble mason and terrazzo worker in the performance of their duties.

- **TRUCK DRIVERS**

Definitions:

1) “Site of the work” (29 Code of Federal Regulations (CFR) 5.2(l)(b) is the physical place or places where the building or work called for in the contract will remain and any other site where a significant portion of the building or work is constructed, provided that such site is established specifically for the performance of the contract or project;

(a) Except as provided in paragraph (l) (3) of this section, job headquarters, tool yards, batch plants, borrow pits, etc. are part of the “site of the work”; provided they are dedicated exclusively, or nearly so, to the performance of the contract or project, and provided they are adjacent to “the site of work” as defined in paragraph (e)(1) of this section;

(b) Not included in the “site of the work” are permanent home offices, branch plant establishments, fabrication plants, tool yards etc, of a contractor or subcontractor whose location and continuance in operation are determined wholly without regard to a particular State or political subdivision contract or uncertain and indefinite periods of time involved of a few seconds or minutes duration and where the failure to count such time is due to consideration justified by industrial realities (29 CFR 785.47)

2) “Engaged to wait” is waiting time that belongs to and is controlled by the employer which is an integral part of the job and is therefore compensable as hours worked. (29 CFR 785.15)

3) “Waiting to be engaged” is waiting time that an employee can use effectively for their own purpose and is not compensable as hours worked. (29 CFR 785.16)

4) “De Minimus” is a rule that recognizes that unsubstantial or insignificant periods of time which cannot as a practical administrative matter be precisely recorded for payroll purposes, may be disregarded. This rule applies only where there are uncertain and indefinite periods of time involved of a short duration and where the failure to count such time is due to consideration justified by worksite realities. For example, with respect to truck drivers on prevailing wage sites, this is typically less than 15 minutes at a time.

Coverage of Truck Drivers on State or Political subdivision Prevailing Wage Projects

Truck drivers are covered for payroll purposes under the following conditions:

- Truck Drivers for time spent working on the site of the work.
- Truck Drivers for time spent loading and/or unloading materials and supplies on the site of the work, if such time is not de minimus

- Truck drivers transporting materials or supplies between a facility that is deemed part of the site of the work and the actual construction site.
- Truck drivers transporting portions of the building or work between a site established specifically for the performance of the contract or project where a significant portion of such building or work is constructed and the physical places where the building or work outlined in the contract will remain.

For example: Truck drivers delivering asphalt are covered under prevailing wage while “engaged to wait” on the site and when directly involved in the paving operation, provided the total time is not “de minimus”

Truck Drivers are not covered in the following instances:

- Material delivery truck drivers while off “the site of the work”
- Truck Drivers traveling between a prevailing wage job and a commercial supply facility while they are off the “site of the work”
- Truck drivers whose time spent on the “site of the work” is de minimus, such as under 15 minutes at a time, merely to drop off materials or supplies, including asphalt.

These guidelines are similar to U.S. Labor Department policies. The application of these guidelines may be subject to review based on factual considerations on a case by case basis.

For example:

- Material men and deliverymen are not covered under prevailing wage as long as they are not directly involved in the construction process. If, they unload the material, they would then be covered by prevailing wage for the classification they are performing work in: laborer, equipment operator, etc.
- Hauling material off site is not covered provided they are not dumping it at a location outlined above.
- Driving a truck on site and moving equipment or materials on site would be considered covered work, as this is part of the construction process.

Any questions regarding the proper classification should be directed to:

*Public Contract Compliance Unit
Wage and Workplace Standards Division
Connecticut Department of Labor
200 Folly Brook Blvd, Wethersfield, CT 06109
(860) 263-6543*

Connecticut Department of Labor
Wage and Workplace Standards Division
FOOTNOTES

Please Note: If the “Benefits” listed on the schedule for the following occupations includes a letter(s) (+ a or + a+b for instance), refer to the information below.

Benefits to be paid at the appropriate prevailing wage rate for the listed occupation.

If the “Benefits” section for the occupation lists only a dollar amount, disregard the information below.

Bricklayers, Cement Masons, Cement Finishers, Concrete Finishers, Stone Masons
(Building Construction) and
(Residential- Hartford, Middlesex, New Haven, New London and Tolland Counties)

- a. Paid Holiday: Employees shall receive 4 hours for Christmas Eve holiday provided the employee works the regularly scheduled day before and after the holiday. Employers may schedule work on Christmas Eve and employees shall receive pay for actual hours worked in addition to holiday pay.

Elevator Constructors: Mechanics

- a. Paid Holidays: New Year’s Day, Memorial Day, Independence Day, Labor Day, Veterans’ Day, Thanksgiving Day, Christmas Day, plus the Friday after Thanksgiving.
- b. Vacation: Employer contributes 8% of basic hourly rate for 5 years or more of service or 6% of basic hourly rate for 6 months to 5 years of service as vacation pay credit.

Glaziers

- a. Paid Holidays: Labor Day and Christmas Day.

Power Equipment Operators
(Heavy and Highway Construction & Building Construction)

- a. Paid Holidays: New Year’s Day, Good Friday, Memorial day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, provided the employee works 3 days during the week in which the holiday falls, if scheduled, and if scheduled, the working day before and the working day after the holiday. Holidays falling on Saturday may be observed on Saturday, or if the employer so elects, on the preceding Friday.

Connecticut Department of Labor
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FOOTNOTES

Ironworkers

- a. Paid Holiday: Labor Day provided employee has been on the payroll for the 5 consecutive work days prior to Labor Day.

Laborers (Tunnel Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day. No employee shall be eligible for holiday pay when he fails, without cause, to work the regular work day preceding the holiday or the regular work day following the holiday.

Roofers

- a. Paid Holidays: July 4th, Labor Day, and Christmas Day provided the employee is employed 15 days prior to the holiday.

Sprinkler Fitters

- a. Paid Holidays: Memorial Day, July 4th, Labor Day, Thanksgiving Day and Christmas Day, provided the employee has been in the employment of a contractor 20 working days prior to any such paid holiday.

Truck Drivers

(Heavy and Highway Construction & Building Construction)

- a. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day, Christmas day, and Good Friday, provided the employee has at least 31 calendar days of service and works the last scheduled day before and the first scheduled day after the holiday, unless excused.