

IFB # 17-68

SOLICITATION FOR: Winter Hill Community School Park – Phase 2



CITY OF SOMERVILLE, MASSACHUSETTS

Joseph A. Curtatone, Mayor

Purchasing Department
Angela M. Allen, Purchasing Director

RELEASE DATE: 5/24/2017

OPTIONAL PRE-BID MEETING DATE AND TIME: 6/6/2017 at 10 AM EST

QUESTIONS DUE: 6/6/2017 by 4:30PM EST

DUE DATE AND TIME: 6/14/2017 by 11AM EST

DELIVER TO:

City of Somerville

Purchasing Department

Attn: Michael Richards
Assistant Purchasing Director
mrichards@somervillema.gov

**93 Highland Avenue
Somerville, MA 02143**

IFB # 17-68
Winter Hill Community School Park – Phase 2

Key Project Information

Project Address	115 Sycamore St., Somerville, MA
Estimated Construction Cost	\$750,000.00
Optional Pre-Bid Site Visit Interested vendors must register interest in attending 24 hours prior	6/6/2017 at 10am at 115 Sycamore St.
Anticipated Contract Award	6/21/2017
Date of Substantial Completion	09/01/17
Date of Final Completion	11/1/17
Est. Contract Commencement Date	7/1/2017
Est. Contract Completion Date	5/30/18
Governing Bid Law	MGL 30.39M (Horizontal Construction)
Wage Requirements	State Prevailing Wages
Payment Bond Requirements	50% of Contract Value
Performance Bond Requirements	N/A
Liquidated Damages (\$ per day)	\$250.00

Managing Department Information

Managing City Department	Office of Strategic Planning and Community Development
Project Manager	Luisa Oliveira
Project Manager Email	loliveira@somervillema.gov

Designer Information

Designer Name	Warner Larson Landscape Architects
Designer Address	130 W. Broadway, Boston, MA 02127
Designer Specialty	Landscape Architecture
Designer Contact	David Warner, ASLA
Designer Contact Email	DWarner@warnerlarson.com

TABLE OF CONTENTS

• Part 1: Invitation for Bid Documents

Section 1: GENERAL INFORMATION ON BID PROCESS

1.1	General Instructions
1.2	Bid Schedule
1.3	Submission Instructions
1.4	Questions
1.5	General Terms

Section 2: RULE FOR AWARD, QUALITY REQUIREMENTS, AND PROJECT BACKGROUND

2.1	Rule For Award
2.2	Project Background
2.3	Minimum Quality Requirements

Section 3: REQUIRE BID FORMS / BIDDERS' CHECKLIST

3.1 (required with bid)	Somerville Living Wage Form
	Quality Requirements Form
	Certificate of Non-Collusion & Tax Compliance
	Certificate of Signature Authority
	Reference Form (or equivalent may be attached)
	5% Bid Deposit
	Prevailing Wages, Statement of Compliance Form
	OSHA Form
	Acknowledgement of Addenda (if applicable)
	Signed W9
3.2 (required post bid)	Applicable Wage Schedules
	Certificate of Good Standing (will be required of awarded Vendor; please furnish with bid if available)
	Insurance Specifications (will be required of awarded Vendor; furnish sample certificate with bid, if possible)
	Payment Bond (50% of contract price)

Section 4: BID PRICE FORMS

4.1	Form for General Bid
	Bid Form for Alternates
	Unit Price Form

• PART 2: SAMPLE CONSTRUCTION CONTRACT / CITY's GENERAL TERMS AND CONDITIONS

This section includes applicable prevailing wages.

• PART 3: TECHNICAL SPECIFICATIONS

All documents dated: May 24, 2017 (except existing conditions plan)

<u>DIVISION 02</u> EXISTING CONDITIONS/SITE CONSTRUCTION	
Site Preparation and Demolition	024100
<u>DIVISION 11</u> EQUIPMENT	
Play Equipment	116800
<u>DIVISION 31</u> EARTHWORK	
Excavation, Filling and Grading	310000
Appendix – Geotechnical Report	
<u>DIVISION 32</u> EXTERIOR IMPROVEMENTS	
Asphalt Paving	321216
Portland Cement Concrete	321313
Curbing	321600
Recreational Surfacing	321800
Site Improvements	323000
Fences and Gates	323100
Planting	329000
<u>DIVISION 33</u> UTILITIES	
Storm Drainage Utilities	334000

• PART 4: CONSTRUCTION DOCUMENT DRAWING LIST

All documents dated: May 24, 2017 (except existing conditions plan)

Drawings are available online via [this link](#).

DRAWINGS

-	Cover Sheet
-	Existing Conditions Plan
L-1.0	Site Preparation Plan
L-2.0	Layout & Materials Plan
L-3.0	Grading Plan
L-4.0	Planting Plan
L-5.0	Details
L-5.1	Details
L-5.2	Details
L-5.3	Details

Part 1: Invitation for Bid Documents

IFB # 17-68
Winter Hill Community School Park – Phase 2

1.1 General Instructions

The solicitation may be accessed online from the Purchasing Department on and after 5/24/2017 per the below-noted City Hall hours of operation.

Hall Hours of Operation:	
Monday – Wednesday	8:30 a.m. and 4:30 p.m.
Thursday	8:30 a.m. to 7:30 p.m.
Friday	8:30 a.m. to 12:30 p.m.

All Responses Must be Sealed and Delivered To:
Purchasing Department City of Somerville 93 Highland Avenue Somerville, MA 02143
<i>It is the sole responsibility of the Offeror to ensure that the bid arrives on time at the designated place. Late bids will not be considered and will be rejected and returned.</i>
Bid Format:
Submit one, original (1) sealed bid package; it must be marked with the solicitation title and number.
BIDS SUBMITTED MUST BE AN ORIGINAL. The completion of the following forms is necessary for consideration of a potential contract award. When submitting bid documents, please retain the order of documents as provided below: 1) Form for General Bid 2) Bid Form for Alternates (if applicable) 3) Unit Price Form 4) Somerville Living Wage Form 5) Quality Requirements Form 6) Certificate of Non-Collusion & Tax Compliance 7) Certificate of Signature Authority 8) Reference Form 9) 5% Bid Deposit 10) Prevailing / Davis Bacon Wages Statement of Compliance Form 11) OSHA Form
If all required documents are not present, the bid may be deemed non-responsive and may result in disqualification of the bid unless the City determines that such failure(s) constitute(s) a minor informality, as defined in Chapter MGL 30B.
The Offeror's authorized official(s) must sign all required bid forms.

1.2 Bid Schedule

Key dates for this Invitation for Bids:	
IFB Issued	5/24/2017
Deadline for Submitting Questions to IFB	6/6/2017 by 4:30PM EST
Bids Due	6/14/2017 by 11AM EST
Anticipated Contract Award	6/21/2017
Est. Contract Commencement Date	7/1/2017
Est. Contract Completion Date	5/30/18

Responses must be delivered by 6/14/2017 by 11AM EST to:	City of Somerville Purchasing Department Attn: Michael Richards 93 Highland Avenue Somerville, MA 02143
---	---

1.3 Submission Instructions

Please submit *one sealed bid package* with the following contents and marked in the following manner:

Contents of Sealed Bid Package	Marked As
Envelope 1: Sealed Bid: Shall Include (1) original and one (1) electronic copy. [Electronic copies are to be submitted on CD-ROM or thumb drives and are to be saved in Adobe Acrobat format. ("Read only" files are acceptable.)]	To Be Marked: IFB # 17-68 Winter Hill Community School Park – Phase 2
Please send the complete sealed package to the attention of :	Michael Richards Assistant Purchasing Director Purchasing Department Somerville City Hall 93 Highland Avenue Somerville, MA 02143

Bid Format

Responses shall be prepared on standard 8.5 x 11 inch paper (charts may be landscaped but must be on 8.5 x 11 inch paper) and shall be in a legible font size (12). All pages of each response shall be appropriately numbered (and with consecutive page numbering across tabs). **In an effort to reduce waste, please DO NOT USE 3-RING BINDERS.**

Elaborate format and binding are neither necessary nor desirable.

Qualifications & Experience

The Offeror may include any additional literature and product brochures. The Quality Requirements Form (Section 2), or set of basic business standards, must be submitted with bid.

References

The Offeror shall list at least three references for three different playground projects that are relevant, which the City may contact. The City of Somerville reserves the right to use ourselves as a reference. A sample reference form is included for your use. In every case, references shall include the following information:

●The name, address, telephone number, and email address of each client listed above.	
●A description of the work performed under each contract.	●The amount of the contract.
●A description of the nature of the relationship between Offeror and the customer.	
●The dates of performance.	●The volume of the work performed.

1.4 Questions

Questions are due: 6/6/2017 by 4:30PM EST

Questions concerning this solicitation must be delivered in writing to:

Michael Richards
Assistant Purchasing Director
Somerville City Hall
Purchasing Department
93 Highland Avenue
Somerville, MA 02143

Or emailed to:

mrichards@somervillema.gov

Or faxed to:

617-625-1344

Answers will be sent via an addendum to all Offerors who have registered as bid holders. Bidders are encouraged to contact the Purchasing Department to register as a bid document holder to automatically be alerted as to addenda as they are issued. It is the responsibility of the Offeror to also monitor the bid portal on the City's website for any updates, addenda, etc. regarding that specific solicitation. The web address is:

<http://www.somervillema.gov/departments/finance/purchasing/bids>.

Any bidders that contact City personnel outside of the Purchasing Department regarding this bid may be disqualified.

1.5 General Terms

Estimated Quantities

The City of Somerville has provided estimated quantities, which will be ordered/purchased over the course of the contract period. These estimates are estimates only and not guaranteed.

Bid Signature

A response must be signed as follows: 1) if the Offeror is an individual, by her/him personally; 2) if the Offeror is a partnership, by the name of the partnership, followed by the signature of each general partner; and 3) if the Offeror is a corporation, by the authorized officer, whose signature must be attested to by the clerk/secretary of the corporation (& with corporate seal).

Time for Bid Acceptance and City Contract Requirements

The contract will be awarded within 90 days after the bid opening. The time for award may be extended for up to 45 additional days by mutual agreement between the City of Somerville and the Offeror that is most advantageous and responsible. The Offeror's submission will remain in effect for a period of 90 days from the response deadline or until it is formally withdrawn, a contract is executed, or this solicitation is canceled, whichever occurs first. The Offeror will be required to sign a standard City contract per the City's general terms included herein as Appendix A.

Holidays are as follows:

New Year's Day	Martin Luther King Day	Presidents' Day	Patriots' Day
Memorial Day	Bunker Hill Day	Independence Day	Labor Day
Columbus Day	Veterans' Day	Thanksgiving Day	Thanksgiving Friday
Christmas Eve (half day)	Christmas Day		

Please visit <http://www.somervillema.gov/> for the City's most recent calendar. *Under State Law, all holidays falling on Sunday must be observed on Monday.

If the awarded Offeror for their convenience desires to perform work during other than normal working hours or on other than normal work days, or if the Offeror is required to perform work at such times, the Offeror shall reimburse the City for any additional expense occasioned the City, thereby, such as, but not limited to, overtime pay for City employees, utilities service, etc. UNLESS otherwise specified in these provisions, services will be performed during normal work hours. When required services occur on holidays, work will be performed on either the previous or following work day, unless specified otherwise.

Unforeseen Office Closure

If, at the time of the scheduled bid opening, the Purchasing Department is closed due to uncontrolled events such as fire, snow, ice, wind, or building evacuation, the bid due date will be postponed until 2:00 p.m. on the next normal business day. Bids will be accepted until that date and time. In the event of inclement weather, the Offeror is responsible for listening to the media to determine if the City has been closed due to weather.

Changes & Addenda

If any changes are made to this solicitation, an addendum will be issued. All proposers on record as having picked up the solicitation will be alerted via email as to the posting of all addenda. The City will also post addenda on its website (<http://www.somervillema.gov/departments/finance/purchasing/bids>). No changes may be made to the solicitation documents by the Offerors without written authorization and/or an addendum from the Purchasing Department.

Modification or Withdrawal of Bids, Mistakes, and Minor Informalities

An Offeror may correct, modify, or withdraw a bid by written notice received by the City of Somerville prior to the time and date set for the bid opening. Bid modifications must be submitted in a sealed envelope clearly labeled "Modification No. __" to the address listed in Section 1. Each modification must be numbered in sequence and must reference the original solicitation. After the bid opening, an Offeror may not change any provision of the bid in a manner prejudicial to the interests of the City or fair competition. Minor informalities will be waived or the proposer will be allowed to correct them. If a mistake and the intended bid are clearly evident on the face of the bid document, the mistake will be corrected to reflect the intended correct bid, and the proposer will be notified in writing; the proposer may not withdraw the bid. A proposer may withdraw a bid if a mistake is clearly evident on the face of the bid document, but the intended correct bid is not similarly evident.

Right to Cancel/Reject Bids

The City of Somerville may cancel this solicitation, or reject in whole or in part any and all bids, if the City determines that cancellation or rejection serves the best interests of the City.

Unbalanced Bids

The City reserves the right to reject unbalanced, front-loaded, and conditional bids.

Brand Name “or Equal”

Any references to any brand name or proprietary product in the specifications shall require the acceptance of an equal or better brand. The City has the right to make the final determination as to whether an alternate brand is equal to the brand specified.

Electronic Funds Transfer (EFT)

For EFT payment, the following shall be included with invoices to the point of contact:

- Contract/Order number; Contractor’s name & address as stated in the contract;
- The signature (manual or electronic, as appropriate) title, and telephone number of the Offeror’s representative authorized to provide sensitive information;
- Name of financial institution; Financial institution nine (9) digit routing transit number;
- Offeror’s account number; Type of account, i.e., checking or saving.

Project Schedule

Bidders are instructed to note the firmness of the dates of: Substantial Completion, and Final Completion. For the purpose of meeting these deadlines, the City may be prepared to authorize extended work hours beyond those prescribed by City ordinance, to include work on Sundays with the prior permission of the City.

Contractor submission of all paperwork required for the Construction Contract, including but not limited to insurance certificates, performance and payment bonds, a certificate of good standing from the Secretary of Corporations, and signature pages shall be submitted to the Purchasing Director no later than 5 working days from award of the contract.

The successful bidder shall be required to submit a preliminary construction schedule within 10 days of the established date of award of the Contract and a more detailed Gantt-type construction schedule within 15 days of the established award of the contract, which shows the dates of substantial and final completion.

Sales Tax Exemption

Materials, equipment, and supplies for this project are exempt from sales tax in accordance with M.G.L. Chapter 64H, Section 6 (d). The city will furnish the successful bidder with its sales tax exemption number.

Permit Fees (Contractor responsible obtaining permits/City of Somerville permit fees waived)

DPW permits to obstruct or excavate the public streets and/or sidewalks; ISD building code permits; and Traffic and Parking permits; are waived by the City of Somerville. However, license fees are not waived by the City of Somerville. The Contractor shall pay all license fees (e.g., drain layer’s license fee). The City of Somerville Traffic and Parking Department must be contacted directly for all required permits. The vendor must also provide the City of Somerville Traffic and Parking Department with a traffic management plan, prior to the start of all work.

If water usage is required in the commitment of this project, the Contractor needs to contact the DPW Water Dept., and make arrangements for a water meter. There will be a charge for the water meter and the water usage.

The Contractor is responsible for obtaining EVERSOURCE work orders and for all costs and fees associated with EVERSOURCE.

Permits to excavate the public way cannot be issued until the applicant has notified the appropriate utility companies, as required by Massachusetts General Laws, Chapter 370 of the Acts of 1963. The applicant must either: 1) obtain written receipts from the affected utilities, and provide copies of same to the owner; or 2) utilize the Dig-Safe System for the required notifications, and also submit written notifications for those utilities not participating in the Dig-Safe System.

Written notifications must state that utility companies have been notified and the contractor cleared to begin work.

<i>The following utility companies must be notified in writing:</i>		
M.B.T.A. Engineering and Maintenance Division 617-722-5454 Attn: Chief Engineer 500 Arborway Jamaica Plain, MA 02130	M.W.R.A. Sewer Division 617-242-6000 100 First Avenue Charlestown Navy Yard Boston, MA 02129	M.W.R.A. Water Division 617-242-6000 100 First Avenue Charlestown Navy Yard Boston, MA 02129
<i>The following utility companies must be notified in writing or through Dig-Safe:</i>		
Algonquin Gas Transmission Corp. 617-254-4050 Manager of Land and Public Relations 1284 Soldiers Field Road Brighton, MA 02135	Verizon 781-290-5154 460 Totten Pond Road Waltham, MA 02154	Boston Edison 617-541-5730 Right of Way 1165 Massachusetts Avenue Dorchester, MA 02125
Boston Gas Company 617-323-9210 201 Rivermoor Street West Roxbury, MA 02132	EVERSOURCE 617-497-1236, x4195 46 Blackstone Street Somerville, MA 02139	EVERSOURCE Steam 617-225-4568 Attn: Supervisor of Maintenance 265 First Street Somerville, MA 02142
EVERSOURCE Gas 617-369-5591 303 Third Street Somerville, MA 02142	A T & T Broadband 981-658-0400 760 Main Street Malden, MA 01887	Somerville Public Works Dept. 617-625-6600, x5200 One Franey Road Somerville, MA 02145
Somerville Fire Department 617-625-6600, x8100 266 Broadway Somerville, MA 02143	Dig-Safe 1-800-322-4844	

The contractor shall have all utilities marked out along the course of this work by such means as the Engineer shall approve and shall preserve such marked locations until the work has progressed to the point where the encountered utility is fully exposed and protected as required. It shall be the contractor's responsibility to notify utilities at least 48 hours prior to the start of any excavation.

The contractor is responsible for contacting any other utilities that are not listed herein.

Schedule of Values

Bidders do NOT need to include a Schedule of Values with their bid package. The successful bidder will be required to submit a refined and detailed schedule of values for review and approval by the design professional prior to signing the construction contract.

5% Bid Guaranty

All bids shall be accompanied by a bid bond or bank certified check or bank treasurer's check in the amount of 5% of the bid price, which shall become the property of the City of Somerville if the bid is accepted and the bidder neglects or refuses to comply with the terms of the bid.

Prevailing Wage Rate Requirements

The contractor shall pay Mass. Prevailing Wage Rates. The applicable prevailing wage rates are attached as part of this bid package and will be included in the resulting contract. Notwithstanding anything to the contrary, the City may, in its sole discretion withhold payment unless the City has in its possession payroll records that are complete, accurate, and current as of the date of said application for payment. A signed Compliance Form must be included with the bid package (form included).

a) The Contractor shall:

- Pay wages at least once a week;
- Submit payroll information on a weekly basis in a format approved by the City, numbered in numerical sequence and signed by the Contractor (including forms for weeks when the Contractor is not on the Project Site, in which case there shall be a notation to the effect "no work this payroll period" and a date anticipated for resuming work).

b) The Contractor shall submit to the City within the first week of construction:

- A list of apprenticeship programs with which the Contractor is affiliated;
- The number of apprentices that will be employed by the Contractor on the Project;
- A list of the Contractor's employee fringe benefits;
- A copy of each project schedule, including the anticipated commencement date for each Subcontractor; and
- A list of each Subcontractor's suppliers and material men.

c) The Contractor shall include language similar to the above in all subcontracts.

Reservation of Rights

The City reserves the right to extend the deadline for submission of bids, to waive minor informalities, and to reject any and all bids, if in its sole judgment, the best interests of the City of Somerville would be served by doing so.

Maintenance Manual and As-Built Drawing Requirements

Upon Final Completion of all park construction, the contractor shall submit: two complete copies of a park maintenance manual, and two copies of an as-built drawing set, with two compact disc (CD) copies of the as-built drawings. The City will not issue the final check for park retainage until the submittal and approval of the maintenance manual and as-built drawings.

- 1) The Maintenance Manual shall be in the form of a three ring binder, organized and tabbed into appropriate sections, and shall include the following items:
 - A complete maintenance plan with recommended maintenance schedules and procedures for all systems including: HVAC, security (card access/cameras), fire suppression, irrigation, fertilization, and water systems shut-down procedures, etc., and all other applicable systems and procedures;
 - A letter from the contractor stating the period of warranty for all parts, materials, and workmanship, from the date of Final Completion;
 - A letter from the contractor stating the period of warranty for all systems (HVAC, irrigation, fire suppression, etc.);
 - All product information, product directions, and warranties;
 - List of all materials (plants, etc.), sizes of plant containers, etc.;
 - Copies of City permits with signatures of inspectors;
 - Contact information for all subcontractors including email addresses; and,
 - A record of all submittals and dates of approvals.
- 2) As-Built drawings shall be a complete and accurate record that incorporates any and all changes to the construction plan set issued at the time of contract initiation. As-Built drawings shall be clearly marked and annotated and shall

include but not be limited to: all field changes, change orders, and supplemental drawing provided by the landscape architect.

3) The Compact Discs shall include an electronic copy of all as-built drawings.

Police Details

Unless otherwise noted in the specifications, the Contractor will be responsible for requesting and paying for all necessary police details. These costs should be incorporated into the base bid amount.

Period of Performance

The period of performance for this contract begins on or about 7/1/2017 and ends on or about 5/30/18. If applicable, optional renewal years may be exercised by the sole discretion of the City (see cover page for anticipated contract term).

Place of Performance

All services, delivery, and other required support shall be conducted in Somerville and other locations designated by the Department point of contact. Meetings between the Vendor and City personnel shall be held at the City of Somerville, Massachusetts, unless otherwise specified.

Vendor Conduct

The Vendor's employees shall comply with all City regulations, policies, and procedures. The Vendor shall ensure that their employees present professional work attire at all times. The authorized contracting body of the City may, at his/her sole discretion, direct the Vendor to remove any Vendor employee from City facilities for misconduct or safety reasons. Such rule does not relieve the Vendor of their responsibility to provide sufficient and timely service. The City will provide the Vendor with immediate written notice for the removal of the employee. Vendors must be knowledgeable of the conflict of interest law found on the Commonwealth's website <http://www.mass.gov/ethics/laws-and-regulations-/conflict-of-interest-information/conflict-of-interest-law.html>. Vendors may be required to take the Conflict of Interest exam.

Vendor Personnel

The Vendor shall clearly state the name of the proposed project manager. All proposed staff must demonstrate the ability to carry out the specified requirements.

Confidentiality

The Vendor agrees that it will ensure that its employees and others performing services under this contract will not use or disclose any non-public information unless authorized by the City. That includes confidential reports, information, discussions, procedures, and any other data that are collected, generated or resulting from the performance of this scope of work. All documents, photocopies, computer data, and any other information of any kind collected or received by the Vendor in connection with the contract work shall be provided to the City upon request at the termination of the contract (i.e., the date on which final payment is made on the contract or at such other time as may be requested by the City or as otherwise agreed by City and the Vendor). The Vendor may not discuss the contract work in progress with any outside party, including responding to media and press inquiries, without the prior written permission of the City. In addition, the Vendor may not issue news releases or similar items regarding contract award, any subsequent contract modifications, or any other contract-related matter without the prior written approval of the City. Requests to make such disclosures should be addressed in writing to the Vendor's point of contact.

IFB # 17-68
SECTION 2.0
RULE FOR AWARD /
PROJECT INFORMATION

2.1 Rule For Award

The contract shall be awarded to the responsible and eligible Bidder submitting the lowest total bid price. The contract will be awarded within ninety (90) days after the bid opening. The time for award may be extended for up to 45 additional days by mutual agreement between the City and the apparent lowest responsive and responsible bidder.

2.2 Background

Project Information	
Managing City Department:	Office of Strategic Planning and Community Development
Project Manager:	Luisa Oliveira
Project Manager Email:	loliveira@somervillema.gov
Designer:	Warner Larson Landscape Architects
Designer Contact:	David Warner, ASLA
Project Address:	115 Sycamore St., Somerville, MA
Brief Project Description:	<p>Construction documents for this project have been prepared by Warner Larson, Inc. (WLI) who will act as the agent of the City, overseeing construction to ensure conformity to construction drawings, specifications, and standards. The City's Parks and Open Space division is responsible for project management.</p> <p>The City seeks a full range of construction services to renovate the upper, middle, outdoor classroom and pre-K play areas at Winter Hill Community Innovation School located at 115 Sycamore Street. The approximately 40,000 square foot project area is located between Sycamore Street, Evergreen Avenue, Thurston Street and Medford Street. Work will include demolition of existing asphalt and concrete paving, selective demolition of fencing, tree and vegetation removal, removal and disposal of various play equipment, modifying existing drainage structures, installation of water bottle filling station and drinking fountain on school building, new electrical outlet and conduit, new concrete paving, new asphalt paving, new fencing and gates, installation of new play structures, timber platform, and site furnishings, as well as salvage and reinstallation of existing furnishings and new tree and shrub planting. Trees to remain will be protected and pruned. Insurance requirements are included within this bid package.</p>

	<p>All permit fees and insurance will be the responsibility of the contractor. The vendor is expected to break ground the day after summer recess and to complete the Upper and Pre-K area by the beginning of School in September, 2017. All equipment should be ordered, and the contractor should be prepared to mobilize immediately upon the contract award.</p> <p>In anticipation of the short construction schedule, the City is ordering the site furnishings and will have that on hand; however, the contractor shall be responsible for ordering all remaining items with longer lead items, such as play equipment, fencing and poured in place rubber safety surfacing.</p> <p>The vendor shall familiarize themselves with the site and shall proceed with extreme caution and attention to surrounding neighbors throughout the period of construction. The City will pay for construction services on a fixed fee basis. Please consult the plans and specifications for the full scope of work, including important permitting requirements.</p> <p>The contractor will be responsible for providing as-built drawings, warranties and product info, as well as a plants maintenance manual at final completion. The City will not assume maintenance of the Winter Hill Schoolyard until final completion and a park walk-through/review meeting with the Somerville Departments of Park and Open Space and the Department of Public Works at which all systems and maintenance plans will be reviewed and approved by the Somerville Department of Public Works. After this approval, the contractor will submit the maintenance manual, warranties and product info and as-built drawings to the City.</p>
Estimated Project Cost:	\$750,000.00
Project Schedule	
Estimated Award Date:	6/21/2017
Estimated Start Date:	7/1/2017
Date of Substantial Completion:	09/01/17
Date of Final Completion:	11/1/17

2.3 Minimum Quality Requirements

	Yes	No
Has the contractor been established in this specified field for at least 5 years?		
Has the contractor successfully completed a minimum of three (3) similar municipal playground / schoolyard projects within the past six (6) years?		
Has the contractor provided the resume and project list (current and past projects) of the superintendent who will manage this project?		
Can the contractor certify that all employees to be provided, have successfully completed at least 10 hours of OSHA approved training in Construction Safety and Health?		
Optional: Vendor: Are you a State Office for Minority and Women Owned Business Assistance (SOMWBA) certified minority- or woman-owned business?		

IFB # 17-68

SECTION 3.0

Winter Hill Community School Park – Phase 2

REQUIRED BID FORMS / BIDDERS' CHECKLIST

Please ensure all documents listed on this checklist are included with your bid. Failure to do so may subject the proposer to disqualification.

Required with Sealed Bids

	Form for General Bid
	Bid Form for Alternates (if applicable)
	Unit Price Form (if applicable)
	Somerville Living Wage Form
	Quality Requirements Form (see Section 2.3 of Part 1.)
	Certificate of Non-Collusion & Tax Compliance
	Certificate of Signature Authority
	Reference Form (or equivalent may be attached) – <u>at least three comparable references</u>
	5% Bid Deposit
	Prevailing / Davis Bacon Wages Statement of Compliance Form
	OSHA Form
	Acknowledgement of Addenda (if applicable)
	Signed W9

Required with Contract, *Post Award*

	Certificate of Good Standing (will be required of awarded Contractor; please furnish with bid if available)
	Insurance Specifications (will be required of awarded Contractor; furnish sample certificate with bid, if possible)
	Payment Bond (50% of contract price)

IFB # 17-68

SECTION 4.0

FORM FOR GENERAL BID

The undersigned proposes to furnish all labor and materials required for: Winter Hill Community School Park – Phase 2

In accordance with the accompanying plans and specifications prepared by Warner Larson Landscape Architects (130 W. Broadway, Boston, MA) and specified below, subject to additions and deductions according to the terms of the specifications.

The bidder certifies the following bulleted statements and offers to supply and deliver the materials and services specified below in full accordance with the Contract Documents supplied by the City of Somerville

- The bids will be received at the office of the Purchasing Director, Somerville City Hall, 93 Highland Avenue, Somerville, MA 02143 no later than **6/14/2017 by 11AM EST**
- If the **awarded** vendor is a Corporation a “Certificate of Good Standing” (produced by the Mass. Sec. of State) must be furnished with the resulting contract (see Section 3.0.)
- **Awarded Vendor** must comply with Living Wage requirements (see Section 3.0; only for services)
- **Awarded Vendor** must comply with insurance requirements as stated in Section 3.0.
- The Purchasing Director reserves the right to accept or reject any or all bids and/or to waive any informalities if in her/his sole judgment it is deemed to be in the best interest of the City of Somerville.
- The following prices shall include delivery, the cost of fuel, the cost of labor, and all other charges.
- This form to be enclosed in sealed bid package.

The proposed contract price is (total bid in figures):

\$

Total in words:

(If applicable) The contract price does not include the items listed on the attached “Bid Form for Alternates;” the bidder understands that the project construction cost estimate provided by the City is inclusive of all the work described in this form.

The undersigned agrees that, if he is selected as general contractor, he will within five days, Saturdays, Sundays and legal holidays excluded, after presentation thereof by the awarding authority, execute a contract in accordance with the terms of this bid and furnish a performance bond and also a labor and materials or payment bond (as indicated in the “Key Project Information” section on the 2nd page of this bid), each of a surety company qualified to do business under the laws of the commonwealth and satisfactory to the awarding authority and each in the sum of the contract price, the premiums for which are to be paid by the general contractor and are included in the contract price; provided, however, that if there is more than one surety company, the surety companies shall be jointly and severally liable.

The undersigned hereby certifies that he is able to furnish labor that can work in harmony with all other elements of labor employed or to be employed on the work; that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and that he will comply fully with all laws and regulations applicable to awards made subject to section 44A.

The undersigned further certifies under the penalties of perjury that this bid is in all respects bona fide, fair and made without collusion or fraud with any other person. As used in this subsection the word “person” shall mean any natural person, joint venture, partnership, corporation or other business or legal entity. The undersigned further certifies under

penalty of perjury that the said undersigned is not presently debarred from doing public construction work in the commonwealth under the provisions of section twenty-nine F of chapter twenty-nine, or any other applicable debarment provisions of any other chapter of the General Laws or any rule or regulation promulgated thereunder.

The Undersigned Bidder certifies under the penalties of perjury that:

(1) Pursuant to M.G.L. c. 62C, §49A, to the best of the signatories knowledge and belief, that the Undersigned Bidder is in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support, as well as paid all contributions and payments in lieu of contributions pursuant to MGL 151A, §19A(b); and,

(2) the Federal Employer Identification Number (EIN) of the Bidder is: --

The Undersigned Bidder certifies under penalties of perjury that the Bidder is not presently debarred from doing federal or state public construction work, that the Bidder has not had its low bid rejected by any municipality in the previous two years, except:

in which case the reasons for rejection were as follows:

The Undersigned Bidder has submitted all requested referenced information on the Reference Form.

The Undersigned Bidder understands that the contractor and subcontractors will be required to pay prevailing wages to laborers and mechanics, and that if the Undersigned's bid is significantly below the average bid, the Awarding Authority may require the Bidder to substantiate that the bid is based on payment of wages at prevailing rates.

The Undersigned Bidder certifies that it can achieve substantial and final completion by the dates notes in Section 2.2, herein, unless otherwise noted in the Notice to Proceed as delivered to the awarded vendor.

Should certain additional work be required, or should the quantities of certain classes of work be increased or decreased from those required by the Contract Documents, by authorization of the City, unit prices listed on the attached "Unit Price Form" shall at the option of the City be the basis of payment to the Contractor or credit to the City, for such increase or decrease in the work. The unit prices shall represent the exact net amount per unit to be paid the Contractor (in the case of addition or increase) or to be refunded the City (in the case of decrease). Contractually noted adjustments will be allowed for overhead, profit, insurance or other direct or indirect expenses of the Contractor or Subcontractors.

The unit prices shall include cost of fuel, all labor, materials, equipment, overhead, profit, insurance, etc. to cover the finished work of the several kinds called for. Changes shall be processed in accordance with the provisions of the General Conditions governing changes in the work.

Executed this _____ day of _____, 20____.

Name of Company/Individual:

Address, City, State, Zip:

Tel #

Email:

Name and Title of Person Signing

Signature of Authorized Individual

Please acknowledge receipt of any and all Addenda (if applicable) by signing below and including this form in your bid package.

Failure to do so may subject the proposer to disqualification.

ACKNOWLEDGEMENT OF ADDENDA:

Addendum #1 ____ **#2** ____ **#3** ____ **#4** ____ **#5** ____ **#6** ____ **#7** ____ **#8** ____ **#9** ____ **#10** ____

SECTION 01 23 00 ALTERNATES

1.0 INSTRUCTIONS AND PROVISIONS

1.1 Each Bidder shall be held fully responsible for examining the scope of the alternates generally defined herein and for recognizing any modifications to the Work caused by any alternate whether or not the particular trade Section is mentioned therein.

1.2 All sections of the Work that are affected by the alternates will be considered Work to be performed by the **General Contractor**.

1.3 General Bidders shall enter a single amount in the appropriate space provided in the Bid Form, which total amount shall consist of the amount for all work to be performed by the **General Contractor**.

1.4 The Work of the various Subcontractors and trades to be performed under alternates shall be in strict accordance with the requirements of the particular trade Section of the Specifications.

2.0 ALTERNATES

ADD ALTERNATE NO. 1

Provide a price to furnish and install one yard hydrant, granite post mounting and 1" HDPE water line, trenched and backfilled at 18" depth to winterization drain valve in irrigation valve box at grade against exterior of existing building and 3/4" copper pipe connection to water source point of connection. Add Alternate #1 price shall include the following 3/4" point of connection water source to be performed by a licensed plumber: Install wall-mounted backflow preventer cross connection device, core through exterior building wall and seal copper pipe, to connect to interior plumbing with a winterization drain valve and stainless steel ball shut off valve.

01 23 00 END OF ALTERNATES

01 22 00 - UNIT PRICES

PART 1 - GENERAL

1.01 GENERAL REQUIREMENTS

- A. The Unit Prices set forth herein shall, at the option of the City, be used to determine any equitable adjustment of the Contract Price in connection with the changes or extra work performed under this Contract as directed by the City.
- B. It is mutually understood and agreed that such Unit Prices include all items of costs, equipment, taxes and insurance of every kind, overhead, and profit for the Contractor and they shall be used uniformly, without modification for addition and deductions. Prices listed under ADDITIONS and DEDUCTIONS are to be the complete total price billed to and paid by the City therefor. There can be no more than fifteen (15) percent difference in price between the additions and deductions.

1.02 UNIT PRICES FORM

(Note that items marked with * are not included in the base scope of work or the proposed alternates, and are included in the unit price list in case of field changes.)

ITEM DESCRIPTION (All references to items shall correspond to work as described in the relevant portions of the Construction Documents, unless otherwise indicated, including all labor and materials for installation, e.g. subbase preparation, bases, footings, etc.)		UNIT	ADDITIONS	DEDUCTIONS
1	Tree protection fencing, complete in place	L.F.		
2	Trenching for utilities, not including removal/replacement of finish	C.Y.		
3	Rock/Ledge excavation and removal	C.Y.		
4	Saw cut asphalt pavement	L.F.		
5	Saw cut concrete pavement	L.F.		
6	Removal and disposal of asphalt pavement, full depth (assume 3 1/2")	S.F.		
7	Removal and disposal of concrete pavement, full depth (assume 6")	S.F.		
8	Tree Removal, 5" to 10" caliper, including stump grinding	Ea.		
9	Tree Removal, greater than 10" caliper, including stump grinding	Ea.		
10	Surface preparation, prime and 2 coats paint at existing welded steel fence	L.F.		
11	Ordinary Fill, complete in place	C.Y.		
12	Gravel Borrow, complete in place	C.Y.		
13	3/4" or 1/2" Crushed Stone/Drainage Stone, complete in place	C.Y.		
14	Topsoil, complete in place	C.Y.		
15	Asphalt paving, complete in place including gravel base and subbase preparation	S.Y.		
16	Asphalt paving roadway patch, complete in place	S.F.		
17	Color surfacing for pavement play games	S.Y.		
18	4" Thick Cast in Place Concrete Paving, complete in place	S.F.		
19	6" Thick Cast in Place Concrete Paving, complete in place	S.F.		
20	Cast-In-Place Concrete footing/foundation, complete in place	C.Y.		
21	Precast concrete curb, complete in place	L.F.		
22	2.5" PIP rubber safety surfacing	S.F.		
23	3.5" PIP rubber safety surfacing	S.F.		
24	Electrical 1" Schedule 40 Conduit, complete in place	L.F.		
25	120V GRCI exterior duplex outlet and lockable, weatherproof cover	Ea.		
26	6' High black vinyl coated chain link fence	L.F.		

27	3' High black vinyl coated chain link fence	L.F.		
28	Basketball goal, complete in place	Ea.		
29	Park signage: rules or information sign, complete in place	Ea.		
30	Concrete stepping stones	Ea.		
31	Sitting boulder	Ea.		
32	Sitting log	Ea.		
33	Play stump	Ea.		
34	Steel edging	L.F.		
35	Topsoil/Loam Borrow	C.Y.		
36	Garden planter mix	C.F.		
37	4" N-12 corrugated plastic perforated pipe, complete in place	L.F.		
38	Area drain drywell, complete in place	Ea.		
39	Tree: 2-2.5" caliper, complete in place	Ea.		
40	Tree: 2.5-3" caliper, complete in place	Ea.		
41	Shrub: 3 gallon pot	Ea.		
42	Mulch, complete in place	C.Y.		
43	Exterior wall-mounted drinking fountain and plumbing connection, complete in place	Ea.		
44	Exterior wall-mounted bottle filler and plumbing connection, complete in place	Ea.		
45	Big Blue Blocks Set, including delivery	Ea.		

1.03 UNIT PRICE REQUIREMENTS

- A. Sufficient prior notice shall be given in accordance with the General Conditions so that proper measurements of materials removed or to be replaced may be taken. All quantities used in the determination of additions to or deductions from the Contract Price due to Unit Prices shall only be those that have been determined and approved by the City in advance.
- B. The unit price bid shall be taken to include all labor and materials necessary to make the item of work complete in place, including all associated footings, base materials, backfill materials, excavations, equipment, overhead, and profit.
- C. In case of substitution of items shown on the Drawings or called for in the Contract Documents, the change to the Contract Price for both item deleted and the item added, if of the same class of work, shall be based on the addition column.

END OF SECTION

Form:_____
Contract Number:_____

CITY OF SOMERVILLE

Rev. 08/01/12



Non-Collusion Form and Tax Compliance Certification

Instructions: Complete each part of this two-part form and sign and date where indicated below.

A. NON-COLLUSION FORM

I, the undersigned, hereby certify under penalties of perjury that this bid or proposal has been made and submitted in good faith and without collusion or fraud with any other person.

As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature: _____
(Individual Submitted Bid or Proposal)
Duly Authorized

Name of Business or Entity: _____

Date: _____

B. TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c. 62C, §49A, I certify under the penalties of perjury that, to the best of my knowledge and belief, I am in compliance with all laws of the Commonwealth relating to taxes, reporting of employees and contractors, and withholding and remitting child support, as well as paid all contributions and payments in lieu of contributions pursuant to MGL 151A, §19A(b).

Signature: _____
(Duly Authorized Representative of Vendor)

Name of Business or Entity: _____

Social Security Number or Federal Tax ID#: _____

Date: _____



Certificate of Authority (Corporations Only)

Instructions: Complete this form and sign and date where indicated below.

1. I hereby certify that I, the undersigned, am the duly elected Clerk/Secretary of

(Insert Full Name of Corporation)

2. I hereby certify that the following individual _____
(Insert the Name of Officer who Signed the Contract and Bonds)

is the duly elected _____ of said Corporation.
(Insert the Title of the Officer in Line 2)

3. I hereby certify that on _____
(Insert Date: Must be on or before Date Officer Signed Contract/Bonds)

at a duly authorized meeting of the Board of Directors of said corporation, at which a quorum was present, it was voted that

(Insert Name of Officer from Line 2) (Insert Title of Officer from Line 2)

of this corporation be and hereby is authorized to make, enter into, execute, and deliver contracts and bonds in the name and on behalf of said corporation, and affix its Corporate Seal thereto, and such execution of any contract of obligation in this corporation's name and on its behalf, with or without the Corporate Seal, shall be valid and binding upon this corporation; and that the above vote has not been amended or rescinded and remains in full force and effect as of the date set forth below.

4. **ATTEST:**

Signature: _____
(Clerk or Secretary)

AFFIX CORPORATE SEAL HERE

Printed Name: _____

Printed Title: _____

Date: _____
(Date Must Be on or after Date Officer Signed Contract/Bonds)



**Certificate of Authority
(Limited Liability Companies Only)**

Instructions: Complete this form and sign and date where indicated below.

1. I, the undersigned, being a member or manager of

_____,
(Complete Name of Limited Liability Company)

a limited liability company (LLC) hereby certify as to the contents of this form for the purpose of contracting with the City of Somerville.

2. The LLC is organized under the laws of the state of: _____.

3. The LLC is managed by (**check one**) a Manager or by its Members.

4. I hereby certify that each of the following individual(s) is:

- a member/manager of the LLC;
- duly authorized to execute and deliver this contract, agreement, and/or other legally binding documents relating to any contract and/or agreement on behalf of the LLC;
- duly authorized to do and perform all acts and things necessary or appropriate to carry out the terms of this contract or agreement on behalf of the LLC; and
- that no resolution, vote, or other document or action is necessary to establish such authority.

<u>Name</u>	<u>Title</u>

5. **Signature:**_____

Printed Name: _____

Printed Title:_____

Date: _____

Past Performance Reference Title:	
Contract Number	
Contract Value	
Period of Performance	
POC Name & Title	
Telephone	
Fax	
Email	
Summary of supplies or services provided	

Bidders must furnish at least three comparable references. Proposed superintendent must have worked on projects with at least three of the provided references.



SOMERVILLE LIVING WAGE ORDINANCE CERTIFICATION FORM
CITY OF SOMERVILLE CODE OF ORDINANCES SECTION 2-397 et seq.*

Instructions: This form shall be included in all Invitations for Bids and Requests for Proposals which involve the furnishing of labor, time or effort (with no end product other than reports) by vendors contracting or subcontracting with the City of Somerville, where the contract price meets or exceeds the following dollar threshold: \$10,000. If the undersigned is selected, this form will be attached to the contract or subcontract and the certifications made herein shall be incorporated as part of such contract or subcontract. **Complete this form and sign and date where indicated below on page 2.**

Purpose: The purpose of this form is to ensure that such vendors pay a “Living Wage” (defined below) to all covered employees (i.e., all employees except individuals in a city, state or federally funded youth program). In the case of bids, the City will award the contract to the lowest responsive and responsible bidder paying a Living Wage. In the case of RFP’s, the City will select the most advantageous proposal from a responsive and responsible offeror paying a Living Wage. In neither case, however, shall the City be under any obligation to select a bid or proposal that exceeds the funds available for the contract.

Definition of “Living Wage”: For this contract or subcontract, as of 7/1/2017 “Living Wage” shall be deemed to be an hourly wage of no less than \$12.49 per hour. From time to time, the Living Wage may be upwardly adjusted and amendments, if any, to the contract or subcontract may require the payment of a higher hourly rate if a higher rate is then in effect.

CERTIFICATIONS

1. The undersigned shall pay no less than the Living Wage to all covered employees who directly expend their time on the contract or subcontract with the City of Somerville.
2. The undersigned shall post a notice, (copy enclosed), to be furnished by the contracting City Department, informing covered employees of the protections and obligations provided for in the Somerville Living Wage Ordinance, and that for assistance and information, including copies of the Ordinance, employees should contact the contracting City Department. Such notice shall be posted in each location where services are performed by covered employees, in a conspicuous place where notices to employees are customarily posted.
3. The undersigned shall maintain payrolls for all covered employees and basic records relating hereto and shall preserve them for a period of three years. The records shall contain the name and address of each employee, the number of hours worked, the gross wages, a copy of the social

* Copies of the Ordinance are available upon request to the Purchasing Department.

Form:_____
Contract Number:_____

CITY OF SOMERVILLE

Rev. 05/12/17

security returns, and evidence of payment thereof and such other data as may be required by the contracting City Department from time to time.

4. The undersigned shall submit payroll records to the City upon request and, if the City receives information of possible noncompliance with the provisions the Somerville Living Wage Ordinance, the undersigned shall permit City representatives to observe work being performed at the work site, to interview employees, and to examine the books and records relating to the payrolls being investigated to determine payment of wages.

5. The undersigned shall not fund wage increases required by the Somerville Living Wage Ordinance by reducing the health insurance benefits of any of its employees.

6. The undersigned agrees that the penalties and relief set forth in the Somerville Living Wage Ordinance shall be in addition to the rights and remedies set forth in the contract and/or subcontract.

CERTIFIED BY:

Signature: _____
(Duly Authorized Representative of Vendor)

Title: _____

Name of Vendor: _____

Date: _____

INSTRUCTIONS: PLEASE POST

**NOTICE TO ALL EMPLOYEES
REGARDING PAYMENT OF LIVING WAGE**

Under the Somerville, Massachusetts' Living Wage Ordinance (Ordinance No. 1999-1), any person or entity who has entered into a contract with the City of Somerville is required to pay its employees who are involved in providing services to the City of Somerville no less than a "Living Wage".

The Living Wage as of 7/1/2017 is **\$12.49** per hour. The only employees who are not covered by the Living Wage Ordinance are individuals in a Youth Program. "Youth Program" as defined in the Ordinance, "means any city, state or federally funded program which employs youth, as defined by city, state or federal guidelines, during the summer, or as part of a school to work program, or in any other related seasonal or part-time program."

For assistance and information regarding the protections and obligations provided for in the Living Wage Ordinance and/or a copy of the Living Wage Ordinance, all employees should contact the City of Somerville's Purchasing Department directly.

Form:_____
Contract Number:_____

CITY OF SOMERVILLE

Rev. 11/14/2014



OSHA GENERAL CONTRACTOR CERTIFICATION FORM

**Pursuant to Chapter 306 of the Acts of 2004
An Act Relative to the Health and Safety on Construction Projects**

GENERAL CONTRACTOR'S CERTIFICATION – BID FORM

I, the undersigned, hereby certify under penalties of perjury that I, and all subcontractors who are not filed sub-bidders, shall:

(1) that I am able to furnish labor that can work in harmony with all other elements of labor employed or to be employed in the work; (2) that all employees to be employed at the worksite will have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration at the time the employee begins work and who shall furnish documentation of successful completion of said course with the first certified payroll report for each employee; and (3) that all employees to be employed in the work subject to this bid have successfully completed a course in construction safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration.

As used in this certification, the word "person" shall mean any natural person, business, partnership, corporation, union, committee, club, or other organization, entity, or group of individuals.

Signature: _____
(Individual Submitting Bid)
Duly Authorized

Name of Business or Entity: _____

Date: _____

RETURN THIS FORM WITH YOUR BID

WEEKLY PAYROLL RECORDS REPORT & STATEMENT OF COMPLIANCE

In accordance with Massachusetts General Law c. 149, §27B, a true and accurate record must be kept of all persons employed on the public works project for which the enclosed rates have been provided. A Payroll Form is available from the Department of Labor Standards (DLS) at www.mass.gov/dols/pw and includes all the information required to be kept by law. Every contractor or subcontractor is required to keep these records and preserve them for a period of three years from the date of completion of the contract.

On a weekly basis, every contractor and subcontractor is required to submit a certified copy of their weekly payroll records to the awarding authority; this includes the payroll forms and the Statement of Compliance form. The certified payroll records must be submitted either by regular mail or by e-mail to the awarding authority. Once collected, the awarding authority is required to preserve those records for three years from the date of completion of the project.

Each such contractor and subcontractor shall furnish weekly **and** within 15 days after completion of its portion of the work, to the awarding authority directly by first-class mail or e-mail, a statement, executed by the contractor, subcontractor or by any authorized officer thereof who supervised the payment of wages, this form, accompanied by their payroll:

STATEMENT OF COMPLIANCE

_____, 20_____

I, _____,
(Name of signatory party) (Title)

do hereby state:

That I pay or supervise the payment of the persons employed by

_____ on the _____
(Contractor, subcontractor or public body) (Building or project)

and that all mechanics and apprentices, teamsters, chauffeurs and laborers employed on said project have been paid in accordance with wages determined under the provisions of sections twenty-six and twenty-seven of chapter one hundred and forty nine of the General Laws.

Signature _____

Title _____

MASSACHUSETTS WEEKLY CERTIFIED PAYROLL REPORT FORM



Company's Name:		Address:				Phone No.:				Payroll No.:									
Employer's Signature:		Title:				Contract No:		Tax Payer ID Number		Work Week Ending:									
Awarding Authority's Name:		Public Works Project Name:				Public Works Project Location:				Min. Wage Rate Sheet Number									
General / Prime Contractor's Name:		Subcontractor's Name:						"Employer" Hourly Fringe Benefit Contributions											
												(B+C+D+E)		(A x F)					
Employee Name & Complete Address	Work Classification:	Employee is OSHA 10 certified (?)	Appr. Rate (%)	Hours Worked								Project Hours (A) All Other Hours	Hourly Base Wage (B)	Health & Welfare Insurance (C)	ERISA Pension Plan (D)	Supp. Unemp. (E)	Total Hourly Prev. Wage (F)	Project Gross Wages	Check No. (H)
				Su.	Mo.	Tu.	We.	Th.	Fr.	Sa.	Total Gross Wages								

Are all apprentice employees identified above currently registered with the MA DLS's Division of Apprentice Standards? YES ☐ NO ☐

For all apprentices performing work during the reporting period, attach a copy of the apprentice identification card issued by the Massachusetts Department of Labor Standards / Division of Apprentice Standards. No apprentices are identified above ☐

NOTE: Pursuant to MGL c. 149, s. 27B, every contractor and subcontractor is required to submit a true and accurate copy of their certified weekly payroll records to the awarding authority by first-class mail or e-mail. In addition, each weekly payroll must be accompanied by a statement of compliance signed by the employer. Failure to comply may result in the commencement of a criminal action or the issuance of a civil citation.

Page _____ of _____

Date Received by Awarding Authority
/ /

NAME OF CONTRACTOR		OR SUBCONTRACTOR		ADDRESS		OMB No.: 1215-0149 Expires: 12/31/2011	
--------------------	--	------------------	--	---------	--	---	--

PAYROLL NO.		FOR WEEK ENDING		PROJECT AND LOCATION		PROJECT OR CONTRACT NO.	
-------------	--	-----------------	--	----------------------	--	-------------------------	--

(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT. OR ST.	(4) DAY AND DATE							(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS						(9) NET WAGES PAID FOR WEEK		
				HOURS WORKED EACH DAY										FICA	WITH- HOLDING TAX			OTHER	TOTAL DEDUCTIONS			
			O																			
			S																			
			O																			
			S																			
			O																			
			S																			
			O																			
			S																			
			O																			
			S																			
			O																			
			S																			
			O																			
			S																			

While completion of Form WH-347 is optional, it is mandatory for covered contractors and subcontractors performing work on Federally financed or assisted construction contracts to respond to the information collection contained in 29 C.F.R. §§ 3.3, 5.5(a). The Copeland Act (40 U.S.C. § 3145) contractors and subcontractors performing work on Federally financed or assisted construction contracts to "furnish weekly a statement with respect to the wages paid each employee during the preceding week." U.S. Department of Labor (DOL) regulations at 29 C.F.R. § 5.5(a)(3)(ii) require contractors to submit weekly a copy of all payrolls to the Federal agency contracting for or financing the construction project, accompanied by a signed "Statement of Compliance" indicating that the payrolls are correct and complete and that each laborer or mechanic has been paid not less than the proper Davis-Bacon prevailing wage rate for the work performed. DOL and federal contracting agencies receiving this information review the information to determine that employees have received legally required wages and fringe benefits.

Date _____

I, _____
(Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by _____ on the _____
(Contractor or Subcontractor)
_____ ; that during the payroll period commencing on the _____
(Building or Work)
_____ day of _____, _____, and ending the _____ day of _____, _____,
all persons employed on said project have been paid the full weekly wages earned, that no rebates have
been or will be made either directly or indirectly to or on behalf of said _____
_____ from the full
(Contractor or Subcontractor)
weekly wages earned by any person and that no deductions have been made either directly or indirectly
from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part
3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948,
63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

(2) That any payrolls otherwise under this contract required to be submitted for the above period are
correct and complete; that the wage rates for laborers or mechanics contained therein are not less than the
applicable wage rates contained in any wage determination incorporated into the contract; that the
classifications set forth therein for each laborer or mechanic conform with the work he performed.

(3) That any apprentices employed in the above period are duly registered in a bona fide
apprenticeship program registered with a State apprenticeship agency recognized by the Bureau of
Apprenticeship and Training, United States Department of Labor, or if no such recognized agency exists in a
State, are registered with the Bureau of Apprenticeship and Training, United States Department of Labor.

(4) That:
(a) WHERE FRINGE BENEFITS ARE PAID TO APPROVED PLANS, FUNDS, OR PROGRAMS

— in addition to the basic hourly wage rates paid to each laborer or mechanic listed in
the above referenced payroll, payments of fringe benefits as listed in the contract
have been or will be made to appropriate programs for the benefit of such
employees, except as noted in section 4(c) below.

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

- Each laborer or mechanic listed in the above referenced payroll has been paid,
as indicated on the payroll, an amount not less than the sum of the applicable
basic hourly wage rate plus the amount of the required fringe benefits as listed
in the contract, except as noted in section 4(c) below.

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:

NAME AND TITLE	SIGNATURE
----------------	-----------

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR
SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 231 OF TITLE
31 OF THE UNITED STATES CODE.

Request for Taxpayer Identification Number and Certification

Give Form to the
requester. Do not
send to the IRS.

Print or type See Specific Instructions on page 2.	1 Name (as shown on your income tax return). Name is required on this line; do not leave this line blank.	
	2 Business name/disregarded entity name, if different from above	
	3 Check appropriate box for federal tax classification; check only one of the following seven boxes: <input type="checkbox"/> Individual/sole proprietor or single-member LLC <input type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=partnership) ▶ _____ Note. For a single-member LLC that is disregarded, do not check LLC; check the appropriate box in the line above for the tax classification of the single-member owner. <input type="checkbox"/> Other (see instructions) ▶ _____	4 Exemptions (codes apply only to certain entities, not individuals; see instructions on page 3): Exempt payee code (if any) _____ Exemption from FATCA reporting code (if any) _____ <i>(Applies to accounts maintained outside the U.S.)</i>
	5 Address (number, street, and apt. or suite no.)	Requester's name and address (optional)
	6 City, state, and ZIP code	
7 List account number(s) here (optional)		

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the Part I instructions on page 3. For other entities, it is your employer identification number (EIN). If you do not have a number, see *How to get a TIN* on page 3.

Note. If the account is in more than one name, see the instructions for line 1 and the chart on page 4 for guidelines on whose number to enter.

Social security number										
				-				-		
or										
Employer identification number										
				-						

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions on page 3.

Sign Here	Signature of U.S. person ▶	Date ▶
------------------	-----------------------------------	---------------

General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. Information about developments affecting Form W-9 (such as legislation enacted after we release it) is at www.irs.gov/fw9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN), to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)
- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income, prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)

- Form 1098 (home mortgage interest), 1098-E (student loan interest), 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding? on page 2.

By signing the filled-out form, you:

1. Certify that the TIN you are giving is correct (or you are waiting for a number to be issued),
2. Certify that you are not subject to backup withholding, or
3. Claim exemption from backup withholding if you are a U.S. exempt payee. If applicable, you are also certifying that as a U.S. person, your allocable share of any partnership income from a U.S. trade or business is not subject to the withholding tax on foreign partners' share of effectively connected income, and
4. Certify that FATCA code(s) entered on this form (if any) indicating that you are exempt from the FATCA reporting, is correct. See *What is FATCA reporting?* on page 2 for further information.

INSURANCE SPECIFICATIONS

INSURANCE REQUIREMENTS FOR AWARDED VENDOR ONLY:

Prior to commencing performance of any work or supplying materials or equipment covered by these specifications, the contractor shall furnish to the Office of the Purchasing Director a Certificate of Insurance evidencing the following:

A. GENERAL LIABILITY - Comprehensive Form

Bodily Injury Liability.....\$ One Million

Property Damage Liability.....\$ One Million

B. COVERAGE FOR PAYMENT OF WORKER'S COMPENSATION BENEFIT PURSUANT TO CHAPTER 152 OF THE MASSACHUSETTS GENERAL LAWS IN THE AMOUNT AS LISTED BELOW:

WORKER'S COMPENSATION.....\$ Statutory

EMPLOYERS' LIABILITY.....\$ Statutory

C. AUTOMOBILE LIABILITY INSURANCE AS LISTED BELOW:

BODILY INJURY LIABILITY.....\$ STATUTORY

1. A contract will not be executed unless a certificate (s) of insurance evidencing above-described coverage is attached.
2. Failure to have the above-described coverage in effect during the entire period of the contract shall be deemed to be a breach of the contract.
3. All applicable insurance policies shall read:
"CITY OF SOMERVILLE" as a certificate holder and as an additional insured for general liability only along with a description of operation in the space provided on the certificate.

Certificate Should Be Made Out To:

**City Of Somerville
Purchasing Department
93 Highland Avenue
Somerville, Ma. 02143**

Note: If your insurance expires during the life of this contract, you shall be responsible to submit a new certificate(s) covering the period of the contract. No payment will be made on a contract with an expired insurance certificate.



CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an **ADDITIONAL INSURED**, the policy(ies) must be endorsed. If **SUBROGATION IS WAIVED**, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER	CONTACT NAME:	
	PHONE (A/C, No. Ext):	FAX (A/C, No):
INSURED	E-MAIL ADDRESS:	
	INSURER(S) AFFORDING COVERAGE	
	NAIC #	
	INSURER A :	
	INSURER B :	
	INSURER C :	
INSURER D :		
INSURER E :		
INSURER F :		

COVERAGES**CERTIFICATE NUMBER:****REVISION NUMBER:**

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSR	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
	GENERAL LIABILITY						EACH OCCURRENCE \$
	<input type="checkbox"/> COMMERCIAL GENERAL LIABILITY						DAMAGE TO RENTED PREMISES (Ea occurrence) \$
	<input type="checkbox"/> CLAIMS-MADE <input type="checkbox"/> OCCUR						MED EXP (Any one person) \$
							PERSONAL & ADV INJURY \$
							GENERAL AGGREGATE \$
	GEN'L AGGREGATE LIMIT APPLIES PER:						PRODUCTS - COMP/OP AGG \$
	<input type="checkbox"/> POLICY <input type="checkbox"/> PRO-JECT <input type="checkbox"/> LOC						\$
	AUTOMOBILE LIABILITY						COMBINED SINGLE LIMIT (Ea accident) \$
	<input type="checkbox"/> ANY AUTO						BODILY INJURY (Per person) \$
	<input type="checkbox"/> ALL OWNED AUTOS						BODILY INJURY (Per accident) \$
	<input type="checkbox"/> HIRED AUTOS						PROPERTY DAMAGE (Per accident) \$
							\$
	UMBRELLA LIAB						EACH OCCURRENCE \$
	<input type="checkbox"/> EXCESS LIAB						AGGREGATE \$
	<input type="checkbox"/> DED <input type="checkbox"/> RETENTION \$						\$
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						WC STATUTORY LIMITS <input type="checkbox"/> OTH-ER <input type="checkbox"/>
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) <input type="checkbox"/> Y / N <input type="checkbox"/> N / A						E.L. EACH ACCIDENT \$
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$
							E.L. DISEASE - POLICY LIMIT \$

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (Attach ACORD 101, Additional Remarks Schedule, if more space is required)

DESCRIPTION OF PROJECT, SOLICITATION NUMBER AND THAT THE CITY OF SOMERVILLE IS A CERTIFICATE HOLDER AND ADDITIONAL INSURED

CERTIFICATE HOLDER**CANCELLATION**

CERTIFICATES SHOULD BE MADE OUT TO:

CITY OF SOMERVILLE
c/o PURCHASING DEPARTMENT
93 HIGHLAND AVE
SOMERVILLE, MA 02143

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

CERTIFICATE OF GOOD STANDING

TO: Vendor

FROM: Purchasing Department

RE: **CERTIFICATE OF GOOD STANDING**

The **Awarded Vendor** must comply with our request for a **CURRENT “Certificate of Good Standing”**.

If you require information on how to obtain the “Certificate of Good Standing” or Certificate of Registration (Foreign Corporations) from the Commonwealth of Massachusetts, please call the Secretary of State’s Office at (617) 727-2850 (Press #1) located at One (1) Ashburton Place, 17th Floor, Boston, MA 02133 or you may access their web site at:
<http://corp.sec.state.ma.us/CorpWeb/Certificates/CertificateOrderForm.aspx>

If your company is incorporated outside of Massachusetts and therefore is a “foreign corporation”, but is registered to do business in Massachusetts, please comply with our request for the Certificate of Registration from the Commonwealth of Massachusetts. If your company is a foreign corporation, but is not registered to do business in Massachusetts, please provide the Certificate of Good Standing from your state of incorporation.

Please note that without the above certificate (s), the City of Somerville cannot execute your contract.

IMPORTANT NOTICE

Requests for Certificates of Good Standing by mail may take a substantial amount of time. A certificate may be obtained immediately in person at the Secretary’s Office at the address above. Also, at this time, the Secretary of State’s Office may not have your current annual report recorded. If this is the case, and you are therefore unable to obtain the Certificate of Good Standing, please forward a copy of your annual report filing fee check with your signed contracts. Please forward your original Certificate of Good Standing to the Purchasing Department upon receipt.

Thank You,

Purchasing Director

PART 2: SAMPLE CONSTRUCTION CONTRACT / CITY's GENERAL TERMS AND CONDITIONS

APPENDIX D
General Conditions

**GENERAL TERMS AND CONDITIONS OF THE CONTRACT
FOR CONSTRUCTION, RECONSTRUCTION, ALTERATIONS,
REMODELING, OR REPAIR OF ANY PUBLIC BUILDING OR PUBLIC WORKS
IN THE CITY OF SOMERVILLE**

TABLE OF CONTENTS

Article 1: DEFINITIONS
Article 2: ABOUT THE CONTRACT DOCUMENTS
Article 3: THE CITY
Article 4: THE DESIGN PROFESSIONAL
Article 5: THE CONTRACTOR
Article 6: SUBCONTRACTORS
Article 7: PERFORMANCE AND PAYMENT BONDS
Article 8: INSURANCE REQUIREMENTS
Article 9: TESTS AND INSPECTIONS
Article 10: UNCOVERING AND CORRECTING WORK
Article 11: CHANGES IN THE WORK
Article 12: CHANGE IN THE CONTRACT TIME
Article 13: PAYMENTS
Article 14: SUBSTANTIAL COMPLETION
Article 15: GUARANTEES AND WARRANTIES
Article 16: CLAIMS
Article 17: EMERGENCIES
Article 18: TERMINATION OR SUSPENSION OF THE CONTRACT
Article 19: AMERICANS WITH DISABILITIES ACT
Article 20: WRITTEN NOTICE TO THE PARTIES
Article 21: MISCELLANEOUS PROVISIONS

ARTICLE 1 DEFINITIONS

1.1. In General.

1.1.1. Well-known meanings. When words or phrases that have a well-known technical, or construction industry, or trade meaning are used in the Contract Documents, such words or phrases shall be interpreted in accordance with that meaning, unless otherwise stated.

1.1.2. Capitalization. The words and terms defined in this Article are capitalized in these General Terms and Conditions of the Contract. Other capitalized words may refer to a specific document found in the Contract Documents.

1.1.3. Persons. Whenever the word person or persons is used, it includes, unless otherwise stated, entity or entities, respectively, including, but not limited to, corporations, partnerships, and joint venturers.

1.1.4. Singular and Plural. The following terms have the meanings indicated which are applicable to both the singular and the plural thereof.

1.2. Definitions.

1.2.1. Agreement. The Agreement is the written document between the **City** and the **Contractor** which is titled: Owner-Contractor Public Construction Agreement, which is the executed portion of the Contract, and which forms a part of the Contract. The Agreement also includes all documents required to be attached thereto, including, but not limited to, these general conditions, the performance bond, the labor and materials or payment bonds, certificates of insurance, and all Modifications of the Agreement.

1.2.2. Change Order. A Change Order is a document which is signed by the **Contractor**, the **Design Professional**, and the **City**; which is directed to the **Contractor**; which authorizes the **Contractor** to make an addition to, a deletion from or a revision in the Work, or an adjustment in the Contract Sum or in the Contract Time; and which is issued on or after the date of the Agreement between the **Contractor** and the **City**.

1.2.3. City. The **City** refers to the City of Somerville, which is the owner of the Project and is the public awarding authority with whom the **Contractor** has entered into the Contract and for whom the Work is to be provided.

1.2.4. Claim. A Claim is a dispute, demand, or assertion by one of the parties arising out of or relating to the Contract for which such party is seeking relief.

1.2.5. Contract. The Contract consists of all the Contract Documents. The Contract represents the entire and integrated agreement between the parties hereto and supersedes prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification to the Contract signed by both parties.

1.2.6. Contract Documents. The Contract Documents consist of the Agreement; the notice of award of the Contract; the Notice to Proceed; the entire Project Manual; Change Orders; Construction Change Directives; the **Contractor's** Bid and all accompanying documents; and the **Design Professional's** written interpretations and clarifications issued on or after the issuance of the Notice to Proceed. Shop Drawing submittals and reports or drawings utilized by the **Design Professional** in preparing the Contract Documents are not Contract Documents.

1.2.7. Contractor. The **Contractor** is the person who is awarded the Contract for the Project herein pursuant to M.G.L. c. 149, §44A or M.G.L. c. 39, §39M; and is identified in the Agreement as such. The term "**Contractor**" is intended to include the **Contractor** as well as its authorized representative(s).

1.2.8. Contract Sum. The Contract Sum is the total amount stated in the Agreement payable by the **City** to the **Contractor** for the completion of the Work in accordance with the Contract Documents.

1.2.9. Contract Time. Unless otherwise provided, the Contract Time is the number of days allotted in the Contract Documents or the dates stated in the Agreement, including authorized adjustments, for Substantial Completion.

1.2.10. Coordination Drawings. Coordination Drawings are those drawings, which are prepared by the **Contractor** or a Subcontractor that show the exact alignment, physical locations, and configuration of the mechanical, electrical, and fire protection installations.

1.2.11. Day. The term "day" shall mean calendar day unless otherwise stated.

1.2.12. Design Professional. The **Design Professional** is the person lawfully licensed to practice architecture, engineering, or landscape architecture and has been selected by the **City** to administer the Contract. The term "**Design Professional**," while referred to in the singular, means the **Design Professional** and/or the **Design Professional's** representative.

1.2.13. Field Order. A Field Order is a written order issued by the **Design Professional** which orders minor changes in the Work, but which does not involve a change in the Contract Sum or the Contract Time.

1.2.14. Final Completion. Final Completion is the point in time when the Design Professional finds that the Work has been fully completed in accordance with the Contract Documents. Final Completion shall be no later than thirty (30) days after Substantial Completion.

1.2.15. General Requirements. General Requirements refer to Sections of Division 1 of the Specifications.

1.2.16. Modification. A Modification is a written instrument that amends the Contract after execution of the Agreement.

1.2.17. Notice to Proceed. A Notice to Proceed is a written notice given by the **City**, or the **Design Professional**, to the **Contractor** fixing the date on which the Contract Time will begin to run and on which the **Contractor** shall start to perform its obligations under the Contract Documents.

1.2.18. Plans. The Plans are the drawings which are the graphic and pictorial portions of the Contract Documents, wherever located and whenever issued, showing the design, location, dimensions, scope, extent, and character of the Work to be furnished and performed by the **Contractor** and which have been prepared or approved by the **Design Professional**.

1.2.19. Product Data. Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams, and other information furnished by the **Contractor** to illustrate materials or equipment for some portion of the Work. Product Data are not considered part of the Contract Documents.

1.2.20. Project. The Project is the total Work to be provided under the Contract Documents and may be the whole or a part as indicated elsewhere in the Contract Documents and may include construction by the **City** or by separate contractors. The Project is the Work described in the invitation to bid (advertisement) and Specifications and illustrated by the Plans, including any Modifications.

1.2.21. Project Manual. The Project Manual is the entire set of bidding documents which includes, but is not limited to, the invitation to bid (advertisement), the instructions to bidders, all of the forms, the wage rates, all City and state requirements, the General Terms and Conditions of the Contract, any supplementary conditions thereto, the Plans, the Specifications, and all addenda.

1.2.22. Proposed Change Order. A Proposed Change Order is a Change Order that has been submitted by the **Contractor** to the **Design Professional**, is under review, and has not been approved by the **City**.

1.2.23. Samples. Samples are physical examples of materials, equipment, or workmanship that are representative of some portion of the Work and which establish the standards by which such portion of the Work will be judged. Samples are not considered part of the Contract Documents.

1.2.24. Shop Drawings. Shop Drawings are all drawings, diagrams, illustrations, schedules, and other information that are specifically prepared or assembled by or for the **Contractor** and submitted by the **Contractor** to illustrate some portion of the Work. Shop Drawings are not considered part of the Contract Documents.

1.2.25. Site. The Site is the location of the Project and of the Work.

1.2.26. Specifications. Specifications are those portions of the Contract Documents consisting of written technical descriptions of materials, equipment, construction systems, standards, and workmanship as applied to the Work and certain administrative details applicable thereto.

1.2.27. Subcontractor. A Subcontractor is a person who contracts directly with the **Contractor**, unless otherwise stated.

1.2.28. Submittals. Submittals are those Shop Drawings, Product Data, Samples, or any other required document that are provided to the Design Professional for review and approval.

1.2.29. Substantial Completion. Substantial Completion means that the Work has been completed and the Site or the facility is opened for full and intended public use, except for minor incomplete or unsatisfactory items that do not materially impair the usefulness of the Work. The **Design Professional** shall decide what constitutes “minor,” “incomplete,” “unsatisfactory,” and “materially” and the **Design Professional's** decision shall be final.

1.2.30. Sub-subcontractor. A Sub-subcontractor is a person who has contracted directly with a Subcontractor.

1.2.31. Supplier. A Supplier is a manufacturer, fabricator, distributor, material person, or vendor having a direct contract with the Contractor or with any Subcontractor to furnish materials or equipment to be incorporated into the Work by the Contractor or any Subcontractor.

1.2.32. Work. Work refers to the services and the entire completed construction or the various separately identifiable parts thereof required by the Contract Documents, including all labor, materials, and equipment furnished, furnished and incorporated into the Project, or to be provided by the **Contractor** to fulfill the **Contractor's** obligations. The Work may constitute the whole or a part of the Project.

1.2.33. Construction Change Directive. A **Construction Change Directive** is a written directive to the **Contractor** ordering an addition to, a deletion from, or a revision to the Work issued on or after the date of the Agreement, signed by the **City**, and recommended by the **Design Professional**.

ARTICLE 2

ABOUT THE CONTRACT DOCUMENTS

2.1. Priority;/Conflict.

2.1.1. Priority Among Contract Documents. In the event of conflict among the Contract Documents, the Contract Documents shall be construed according to the following priorities:

- Highest Priority: Modifications
- Second Priority: Agreement
- Third Priority: Addenda-later date to take precedence
- Fourth Priority: Supplementary General Conditions
- Fifth Priority: General Conditions
- Sixth Priority: Plans and Specifications

2.1.1.1. If there is a conflict between the Plans and Specifications, the figured dimensions shall govern over the scaled dimensions. Detailed Plans shall govern over the general Plans. Larger scale Plans shall take precedence over smaller scale Plans. Plans shall govern over Shop Drawings. Whenever notes, specifications, dimensions, details, or schedules in the Specifications or in the Plans, or between the Specifications and the Plans, or in all other instances not specifically noted above, the **Contractor** shall provide, unless otherwise directed by a Modification of the Contract, the better quality or greater quantity of Work at no increase in the Contract Sum or in the Contract Time.

2.1.1.2. Compliance with these priority conditions shall not justify any changes in the Work or any increase in the Contract Sum or Contract Time, unless any such compliance results in Work that may not be reasonably inferred from the Contract Documents as being required to produce the intended result as determined by the **Design Professional**.

2.1.2. Review of the Contract Documents and Field Conditions and Discovery of Conflict, Error, Ambiguity, or Discrepancy. Before starting the Work, and during the progress thereof, the **Contractor** shall carefully study and compare the Contract Documents with each other and with the information furnished by the **City** pursuant to Article 3 and shall at once report to the **Design Professional** any error, inconsistency, or omission the **Contractor** may discover. Any necessary change shall be ordered as provided in Article 11, subject to the requirements of any other provisions of the Contract Documents. The **Contractor** shall not proceed with the Work affected thereby (except in an emergency) until a Modification has been issued. If the **Contractor** proceeds with the Work having discovered such errors, inconsistencies, or omissions contrary to the provisions contained herein, or if by reasonable study of the Contract Documents the **Contractor** could have discovered such, the **Contractor** shall bear all costs arising therefrom. The **Contractor** shall be liable to the **City** for failure to report any conflict, error, ambiguity, or discrepancy of which it knew or should have known.

2.1.3. Field Measurements. The **Contractor** shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the **Contractor** with the Contract Documents before commencing activities. Errors, inconsistencies, or omissions discovered shall be reported to the **Design Professional** at once.

2.1.4. Statutory Provisions. The **City** and the **Contractor** recognize that other rights duties and obligations with respect to public construction contracts are provided for by statute, notwithstanding the fact that they may not be provided for in the Contract Documents. In case of conflict between the statutory provisions and other provisions of the Contract Documents and the provisions of any applicable statute, the statutory provisions shall govern.

2.1.5. Voided or Unlawful Provisions. In the event any provision in the Contract is voided or deemed unlawful, such provision shall be deleted without affecting the remainder of the Contract.

2.2. Execution.

2.2.1. Execution of the Agreement by the **Contractor** is a representation that the **Contractor** has visited the Site, become familiar with local conditions under which the Work is to be performed, and correlated personal observations with requirements of the Contract Documents.

2.3. Intent.

2.3.1. Entire Agreement. The Contract Documents comprise the entire agreement between the **City** and the **Contractor** concerning the Work. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the **Contractor**. The Contract Documents are complementary; what is required by one shall be as binding as if required by all. Performance by the **Contractor** shall be required only to the extent consistent with the Contract Documents and reasonably inferable from them as being necessary to produce the intended results. All Work mentioned or indicated in the Contract Documents shall be performed by the **Contractor** as part of this Contract unless it is specifically indicated in the Contract Documents that such Work is to be done by others.

2.3.2. Statutory Provisions. Each and every provision of law, code, and regulation, required by law to be inserted

in these Contract Documents shall be deemed to be inserted herein, and they shall be read and enforced as though it were included herein, and if through mistake or otherwise, any such provision is not inserted, or if not correctly inserted, then upon the application of either party, the Contract Documents shall forthwith be physically amended to make such insertion.

2.3.3. Functionally Complete Project. It is the intent of the Contract Documents to describe a functionally complete Project. The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work by the **Contractor**. Any Work, materials, or equipment that may be reasonably inferred from the Contract Documents or from prevailing custom or trade usage as being required to produce the intended result will be furnished and performed by the **Contractor** whether or not specifically called for in the Contract Documents.

2.3.4. Indications or Notations. All indications or notations which apply to one of a number of similar situations, materials, or processes shall be deemed to apply to all such situations, materials, or processes wherever they appear in the Work, except where a contrary result is clearly indicated by the Contract Documents.

2.3.5. Standards or Quality of Materials or Workmanship. Where no explicit quality or standards for materials or workmanship are established for Work, such Work is to be of good quality for the intended use and consistent with the quality of the surrounding Work and of the construction of the Project generally.

2.3.6. Manufactured Products. All manufactured articles, materials, and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions unless otherwise indicated in the Contract Documents.

2.3.7. Mechanical, Electrical, and Fire Protection Plans. The mechanical, electrical, and fire protection Plans are diagrammatic only and are not intended to show the alignment, physical locations, or configurations of such Work. Such Work shall be installed without additional cost to the **City** to clear all obstructions, permit proper clearances for the Work of other trades, and present an orderly appearance where exposed. Prior to beginning such Work, the **Contractor** shall prepare Coordination Drawings and demonstrate to the **Design Professional's** satisfaction that the installations will comply with the preceding sentence. The **Contractor** shall be solely liable and responsible for any costs and/or delays resulting from the **Contractor's** failure to prepare such Coordination Drawings.

2.3.8. Locations of Fixtures and Outlets. Exact locations of fixtures and outlets shall be obtained from the **Design Professional** as provided in Article 5 before the Work is roughed in. Work installed without such information from the **Design Professional** shall be relocated at the **Contractor's** expense.

2.3.9. Tests. When test boring or soil test information are included with the Contract Documents or otherwise made available to the **Contractor** and such test boring or soil test information was obtained by the **City** for use by the **Design Professional** in the design of the Project or Work, the **City** does not hold out such information to the **Contractor** as an accurate or approximate indication of subsurface conditions, and no claim for extra cost of extension of time resulting from a reliance by the **Contractor** on such information shall be allowed except as otherwise provided herein. Any such reports are not part of the Contract Documents.

2.3.10. Joining Work. Where the Work is to fit with existing conditions or work to be performed by others, the **Contractor** shall fully and completely join the Work with such conditions or work, unless otherwise specified.

2.4. Organization.

2.4.1. Except as provided in M.G.L. c. 149, §44F, the organization of the Specifications into divisions, sections, and articles, and the arrangement of Plans shall not control the **Contractor** in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

2.5. References.

2.5.1. Where codes, manuals, specifications, standards, requirements and publications of public and private bodies are referred to in the Contract Documents whether specifically or by implication, references shall be understood to be to the latest revision prior to the date of receiving bids, except where otherwise indicated. Where statutes are referred to in the Contract Documents whether specifically or by implication, references shall be understood to be to the latest revision.

2.5.2. References herein to particular paragraphs or Articles are solely to facilitate finding additional information with regard to the specific matters and are not to be construed in any way as limiting the possible paragraphs and Articles in which such matters may be found elsewhere in this document.

2.6. Reuse of Design Professional's Written Instruments.

2.6.1. Neither the **Contractor** nor any Subcontractor or Supplier shall have or acquire any title to or ownership rights in any of the Plans, Specifications, or other documents prepared by the **Design Professional** and shall not reuse any of such Plans, Specifications, or other documents without prior written consent of the **City** and the **Design Professional**.

2.7. Written Material of the Contractor.

2.7.1. All written material prepared or collected by the **Contractor** in the course of completing the Work shall be the exclusive property of the **City** and shall not be used by the **Contractor** for any purpose other than the purpose of this Contract.

2.8. Modifying Words.

2.8.1. In the interest of simplicity, modifying words such as “all” and “any” may be omitted, but the fact that such words may be absent from one sentence and appear in another is not intended to affect the interpretation of either statement.

2.9. Use of Certain Words and Terms.

2.9.1. Whenever in the Contract Documents the terms “as ordered,” “as directed,” “as required,” “as allowed,” “as approved,” or terms of like effect or import are used, or the adjectives “reasonable,” “suitable,” “acceptable,” “proper,” “satisfactory,” or adjectives of like effect or import are used to describe a requirement, direction, review, or judgment of the **City** or of the **Design Professional** as to the Work, it is intended that such requirement, direction, review, or judgment will be solely to evaluate, in general, the completed Work for compliance with the requirements of and information in the Contract Documents and conformance with the design concept of the completed Project as a functioning whole as shown or indicated in the Contract Documents (unless there is a specific statement indicating otherwise).

2.9.2. The use of any such term or adjective shall not be effective to change the duties and responsibilities of the **City** or the **Design Professional** from those assigned in the Contract Documents or to assign any duty or authority to supervise or direct the furnishing or performance of the Work or any duty or authority to undertake responsibility contrary to the provisions of the Contract Documents.

2.9.3. When the words “Contractor,” “Subcontractor,” “Sub-subcontractor,” and “Supplier” are used, they are intended to include their employees and agents, unless otherwise specified.

2.10. Modification of the Contract Documents.

2.10.1. Major Modifications. Major Modifications may affect the Contract Sum or the Contract Time. The Contract Documents may be amended to provide for additions, deletions, and revisions in the Work or to modify the terms and conditions thereof in one or more of the following ways, all of which must contain a written endorsement by the **City**:

- 2.10.1.1.** a formal written amendment;
- 2.10.1.2.** a Change Order;
- 2.10.1.3.** a **Construction Change Directive**; or
- 2.10.1.4.** the **Design Professional's** written interpretation, clarification, or decision.

2.10.2. Minor Modifications. Minor modifications do not affect the Contract Sum or the Contract Time. The requirements of the Contract Documents may be supplemented and minor variations and deviations of the Work may be authorized in one or more of the following ways:

- 2.10.2.1.** a Field Order; or
- 2.10.2.2.** the **Design Professional's** approval of a Shop Drawing or Sample.

ARTICLE 3 THE CITY

3.1. Signatory.

3.1.1. All documents which require a signature or an endorsement by the **City** must be signed by the Mayor in order to be deemed ratified by the **City**.

3.2. Requirements to Provide Documents.

3.2.1. To the extent they are available, the **City** shall furnish surveys describing physical characteristics, legal limitations, and utility locations for the site of the Project, and a legal description of the Site.

3.2.2. The **City** shall obtain and pay for necessary approvals, easements, assessments, and charges that are customarily secured prior to the execution of the Contract.

3.2.3. The **City** shall furnish information or services required of the **City** hereunder with reasonable promptness after receipt from the **Contractor** of a written request for such information or services.

3.2.4. The **City** shall provide the **Contractor**, at no charge, such copies of the Project Manual as are reasonably necessary for the execution of the Work.

3.3. Clerk of the Works.

3.3.1. The **City** may engage a Clerk of the Works for this Project, in which case the **City** shall, upon request of the **Contractor**, provide the **Contractor** with a written statement of the duties, responsibilities, and limitations of authority of such Clerk of the Works. Except as expressly set forth in such written statement, the Clerk of the Works shall have no authority to approve Work, to approve Change Orders, or to exercise any of the power and authority of the **City** or the **Design Professional**. The Clerk of the Works shall observe the **Contractor's** operations and construction activities for compliance with the Plans and Specifications. The Clerk of the Works shall have access to all areas of the Project at all times. The **Contractor** shall fully cooperate with the Clerk of the Works in the performance of the Clerk's duties.

3.4. City's Right to Perform Construction and to Award Separate Contracts.

3.4.1. The **City** reserves the right to perform construction or operations at the Site with its own forces or others. If the **Contractor** claims that a delay or additional cost is involved because of such action by the **City**, the **Contractor** shall make such Claim as provided elsewhere in the Contract Documents.

3.4.2. When the separate contracts are awarded for different portions of the Project or other construction or operations on the site, the term "**Contractor**" in the Contract Documents in each case shall mean the **Contractor** who executes each separate City-Contractor Agreement.

3.4.3. The **City** shall provide for coordination of the activities of the **City's** own forces and of each separate contractor with the Work of the **Contractor**, who shall cooperate with them. The **Contractor** shall afford each other person access to the Site and shall properly coordinate its Work with that of the persons performing other work. The **Contractor** shall participate with other separate contractors and the **City** in reviewing their construction schedules when directed to do so. The **Contractor** shall make any revisions to the construction schedules deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the **Contractor**, separate contractors, and the **City** until subsequently revised.

3.5. Limitations on the City's Responsibilities.

3.5.1. The **City** shall not supervise, direct, or have control or authority over, nor be responsible for the **Contractor's** means, methods, techniques, sequences, or procedures of construction or the safety precautions and programs incident thereto, or for any failure of the **Contractor** to comply with laws, codes and regulations applicable to the furnishing or performance of the Work. The **City** will not be responsible for the **Contractor's** failure to perform or furnish the Work in accordance with the Contract Documents. The **City** is not responsible for the acts or omissions of the **Contractor**, any Subcontractor, Supplier, or anyone for whose acts the **Contractor**, any Subcontractor or Suppliers may be liable.

3.5.2. The **City's** authority to review any of the **Contractor's** progress schedules, or its decision to raise or not to raise any objections about such schedules shall not impose on the **City** any responsibility for the timing, planning, scheduling, or execution of the Work, nor in any way give rise to any duty or responsibility on the part of the **City** to exercise this authority for the benefit of the **Contractor**, any Subcontractor or Supplier or any other party.

3.5.3. The **City's** decision to raise or not to raise objections with regard to any aspects of the **Contractor's** insurance shall in no way give rise to any duty or responsibility on the part of the **City** to or for the benefit of the **Contractor**, any Subcontractor, any Supplier, or any other party.

3.6. Reservation of Rights.

3.6.1. The **City** reserves the right to correct at any time any error in any progress payment that may have been made.

3.6.2. Should defective Work be discovered subsequent to final payment, the **City** reserves the right to make a claim and recover all costs and professional fees associated therewith, including the cost of removing and/or replacing the defective Work.

3.7. Waivers.

3.7.1. All waivers by the **City** are valid only to the extent that they are signed by the **City**. Any such waivers pertain only to the specific matter contained in the waiver and not to any similar, subsequent matters.

ARTICLE 4
THE DESIGN PROFESSIONAL

4.1. City's Representative.

4.1.1. The **Design Professional** is the **City's** representative (1) during construction, (2) until final payment is due, and (3) with the **City's** concurrence, from time to time during the correction period described in Article 10. The **Design Professional** will advise and consult with the **City**. The **Design Professional** will have authority to act on behalf of the **City** only to the extent provided in the Contract Documents, unless otherwise modified by a written instrument in accordance with other provisions of the Contract.

4.1.2. The duties, responsibilities, and the limitations of authority of the **Design Professional** as the **City's** representative during construction are set forth in the Contract Documents and shall not be extended without the written consent of the **City** and the **Design Professional**.

4.2. Administration of the Contract.

4.2.1. The **Design Professional** will provide administration of the Contract as described in the Contract Documents, unless the **City** has engaged a construction manager.

4.3. Visits to the Site.

4.3.1. The **Design Professional** will visit the site at intervals appropriate to the stage of construction to become generally familiar with the progress and quality of the completed Work and to determine in general if the Work is being performed in a manner indicating that the Work, when completed, will be in accordance with the Contract Documents. However, the **Design Professional** will not be required to make exhaustive or continuous on-site inspections to check the quality or quantity of the Work. On the basis of on-site observations as an architect, engineer, or landscape architect, the **Design Professional** will keep the **City** informed of progress of the Work in writing and will endeavor to guard the **City** against defects and deficiencies in the Work.

4.4. Communications Facilitating Contract Administration.

4.4.1. Except as otherwise provided in the Contract Documents or when direct communications have been specially authorized, the **City** and the **Contractor** shall endeavor to communicate through the **Design Professional**. Communications by and with the **Design Professional's** consultants shall be through the **Design Professional**. Communications by and with Subcontractors and Suppliers shall be through the **Contractor**. Communications by and with **City** employees and separate contractors shall be through the **City**.

4.4.2. When it deems it necessary or expedient, the **City** may communicate directly with the **Contractor**, any Subcontractors, Suppliers, or consultants.

4.5. Certification of Applications for Payment.

4.5.1. Based on the **Design Professional's** observations and evaluations of the **Contractor's** applications for payment, the **Design Professional** will review and certify the amounts due the **Contractor** and will issue certificates for payment in such amounts.

4.6. Rejection of Work.

4.6.1. The **Design Professional** will have authority to reject or disapprove Work (1) that does not conform to the Contract Documents; (2) that the **Design Professional** believes to be defective; and (3) that the **Design Professional** believes will not produce a completed Project conforming to the Contract Documents or that will prejudice the integrity of the design concept of the completed Project as a functioning whole as indicated by the Contract Documents. Whenever the **Design Professional** considers it necessary or advisable for implementation of the intent of the Contract Documents, the **Design Professional** will have authority to require additional inspection or testing of the Work in accordance with Article 9, whether or not such Work is fabricated, installed, or completed. However, neither this authority of the **Design Professional** nor a decision made in good faith either to exercise or not to exercise such authority shall give rise to a duty or responsibility of the **Design Professional** to the **Contractor**, Subcontractors, Suppliers, or other persons performing portions of the Work.

4.7. Review of Submittals.

4.7.1. The **Design Professional** will review or take other appropriate action upon the **Contractor's** submittals such as Shop Drawings, Product Data, and Samples, but only for the limited purpose of checking for conformance with information given and the design concept expressed in the Contract Documents and only to the extent that the **Design Professional** believes desirable to protect the **City's** interest. The **Design Professional's** action will be taken with reasonable promptness, while allowing sufficient time in the **Design Professional's** professional judgment to permit adequate review, taking into account the

time periods set forth in the latest schedule prepared by the **Contractor** and approved by the **Design Professional**. Review of such submittals is not conducted for the purpose of determining the accuracy and completeness of other details such as dimensions and quantities, or for substantiating instructions for installation or performance of equipment or systems, all of which remain the responsibility of the **Contractor** as required by the Contract Documents. The **Design Professional's** review of the **Contractor's** submittals shall not relieve the **Contractor** of the obligations under Article 5. The **Design Professional's** review shall not constitute approval of safety precautions or of any construction means, methods, techniques, sequences, or procedures. The **Design Professional's** approval of a specific item shall not indicate approval of an assembly of which the item is a component. After the rejection of the second resubmittal of any one Submittal, the **Contractor** shall bear the cost of the review of each subsequent resubmittal.

4.8. Preparation of Change Orders and Construction Change Directives.

4.8.1. The **Design Professional** will prepare Change Orders and **Construction Change** Directives and may authorize minor Modifications in the Work as provided in Article 11.

4.9. Inspections.

4.9.1. The **Design Professional** will conduct inspections to determine the date or dates of Substantial Completion and the date of final completion; will receive and forward to the **City** for the **City's** review and records written warranties and related documents required by the Contract and assembled by the **Contractor**; and will issue a final certificate for payment upon the **Contractor's** compliance with all of the requirements of the Contract Documents.

4.10. Interpretations, Clarifications, and Decisions.

4.10.1. The **Design Professional** will interpret and decide matters concerning performance under and requirements of the Contract Documents on written request of either the **City** or the **Contractor**. The **Design Professional's** response to such requests will be made with reasonable promptness and within the time set forth in the Agreement between the **City** and the **Design Professional**. Any such written interpretations, clarifications, and decisions shall be binding on the **Contractor**.

4.10.2. Interpretations, clarifications, and decisions of the **Design Professional** will be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in the form of drawings. The **Design Professional** will not be liable to the **Contractor**, any Subcontractor, or Supplier for results of interpretations, clarifications, or decisions so rendered in good faith.

4.10.3. The **Design Professional** may, as the **Design Professional** judges desirable, issue additional drawings or instructions indicating in greater detail the construction or design of the various parts of the Work; such drawings or instructions may be effected by a Field Order or other notice to the **Contractor**, and provided such drawings or instructions are reasonably consistent with the previously existing Contract Documents, the Work shall be executed in accordance with such additional drawings or instructions without any additional cost or an extension of the Contract Time.

4.10.4. The **Design Professional's** decisions on matters relating to aesthetic effect must be consistent with the **City's** and will be final.

4.11. Limitation on the Design Professional's Responsibilities.

4.11.1. Neither the **Design Professional's** authority to act under the provisions of the Contract Documents nor any decision made by the **Design Professional** in good faith to exercise or not to exercise such authority shall give rise to any duty or responsibility of the **Design Professional** to the **Contractor**, any Subcontractor, any Supplier, any surety for any of them or any other person.

4.11.2. The **Design Professional** will not have control over or charge of and will not be responsible for construction means, methods, techniques, sequences, or procedures, or for safety precautions and programs in connection with the Work, since these are solely the **Contractor's** responsibility as provided in Article 5. The **Design Professional** will not be responsible for the **Contractor's** failure to carry out the Work in accordance with the Contract Documents. The **Design Professional** will not have control over or charge of and will not be responsible for acts or omissions of the **Contractor**, Subcontractors, Suppliers, or of any other persons performing portions of the Work.

ARTICLE 5 THE CONTRACTOR

5.1. Relationship with the City.

5.1.1. The **Contractor** is an independent contractor and not an employee of the **City**. The **Contractor** is engaged by virtue of the Contract to perform only those services contained therein. The **Contractor** is not authorized to contract on behalf of the **City** or to incur any liability on the part of the **City**.

5.2. Code of Conduct.

5.2.1. M.G.L. c. 268A establishes standards of conduct for officials and employees of the **City**. The **Contractor** shall familiarize itself with the statute and act accordingly.

5.3. Quality Assurance.

5.3.1. The **Contractor** shall be responsible for ensuring that it, all Subcontractors, Suppliers, and all persons employed to do the Work under the Contract Documents perform in a professional manner, provide a high quality of service and Work, and perform in accordance with the Contract Documents.

5.4. Supervision.

5.4.1. Competence and Efficiency. The **Contractor** shall supervise, inspect, and direct the Work competently and efficiently, devoting such attention thereto and applying such skills, attention and expertise as may be necessary to perform the Work in accordance with the Contract Documents.

5.4.2. Construction Means, Methods, Techniques, Etc. The **Contractor** shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under the Contract. Where the Contract Documents refer to particular construction means, methods, techniques, sequences, or procedures or indicate or imply that such are to be used in the Work, such mention is intended only to indicate that the operations of the **Contractor** shall be such as to produce at least the quality of Work implied by the operations described. The actual determination of whether or not the described operations may be safely and suitably employed on the Work shall be the responsibility of the **Contractor**, who shall notify the **Design Professional** in writing, prior to implementation, of the actual means, methods, techniques, sequences, or procedures which will be employed on the Work, if these differ from those mentioned in the Contract Documents. All loss, damage, liability or cost of correcting defective work arising from the employment of any construction means, methods, techniques, sequences, or procedures shall be borne by the **Contractor**, notwithstanding that such construction means, methods, techniques, sequences, or procedures are referred to, indicated or implied by the Contract Documents, unless the **Contractor** has given timely notice to the **City** and the **Design Professional** in writing that such means, methods, techniques, sequences, or procedures are not safe or suitable, and the **City** has then instructed the **Contractor** in writing to proceed at the **City's** risk.

5.4.3. Variance between the Contract Documents and Statutes, Ordinances, Codes, Rules, and Regulations. The **Contractor** shall promptly notify the **Design Professional** and the **City** in writing of any variances between the Contract Documents and statutes, ordinances, codes, rules, and regulations. If the **Contractor**, without written notice to the **Design Professional** and the **City**, performs Work knowing that it is contrary to statutes, ordinances, codes, rules, and regulations, the **Contractor** shall assume full responsibility for such Work and shall bear the costs associated therewith, i.e., replacement, repairs, removal, and fines.

5.4.4. Acts and Omissions. The **Contractor** shall be responsible to the **City** for the acts and omissions of all persons performing or supplying the Work.

5.4.5. Inspections. The **Contractor** shall be responsible for inspection of portions of Work already performed under this Contract to determine whether such portions are in proper condition to receive subsequent Work.

5.5. Personnel.

5.5.1. Suitability. The **Contractor** shall provide competent, properly licensed and/or certified, suitably qualified, and reliable personnel to perform the Work required by the Contract Documents. The **Contractor** shall enforce strict discipline and maintain good order at the site at all times. The **Contractor** shall not employ any Subcontractor, Supplier, or other person, whether initially or as a substitute, against whom the **City** may have reasonable objection. Acceptance of any Subcontractor or other person by the **City** shall not constitute a waiver of any right of the **City** to reject defective Work.

5.5.2. Sexual Harassment. Sexual harassment is an unlawful practice under M.G.L. c. 151B. The **Contractor**, Subcontractors, and all other persons responsible for any portion of the Work shall refrain from engaging in sexual harassment. The **Contractor** shall be responsible for any acts of sexual harassment committed by any persons responsible for any portion of the Work. The **Contractor** shall take appropriate action against any such individuals.

5.5.3. Weapons and Illegal Drugs. No weapons or illegal drugs are permitted on the Site. It is the responsibility of the **Contractor** to ensure that no weapons or illegal drugs are brought to the Site.

5.5.4. Maximum Work Day and Work Week. (*Reference: M.G.L. c. 149, §§30 and 34;*). No laborer, worker, mechanic, foreperson or inspector working within this Commonwealth in the employ of the **Contractor**, Subcontractor or other person doing or contracting to do the whole or part of the work contemplated by the Contract, shall be required or permitted to work more than eight (8) hours in any one day or more than forty-eight (48) hours in any one week, or more than six (6) days in any one week, except in cases of emergency.

5.5.5. Lodging. (*Reference: M.G.L. c. 149, §25;*). Every employee under this Contract shall lodge, board and trade where and with whom he or she elects, and neither the **Contractor** nor its agents or employees shall, either directly or indirectly, require as a condition of the employment of any person that the employee shall lodge, board or trade at a particular place or with a particular person.

5.5.6. Wage Rates. (*Reference: M.G.L. c. 149, §27*). Mechanics and apprentices, teamsters, chauffeurs and laborers performing Work shall be paid no less than the minimum rate of wages included in the bid documents and the Project Manual and which are made part of the Contract. They shall continue to be the minimum rate of wages for said employees during the life of the Contract. The **Contractor** shall keep a legible copy of the wage rates posted in a conspicuous place at the site during the life of the Contract. These rates of wages shall include payments by employers to health and welfare plans, pension plans and supplementary unemployment benefit plans as provided in M.G.L. c. 149, §26;, and such payments shall be considered as payments to persons under M.G.L. c. 149, §27 performing work as therein provided. If the **Contractor** does not make payments to a health and welfare plan, a pension plan and a supplementary unemployment benefit plan, where such payments are included in the rates of wages, the **Contractor** shall pay the amount of said payments directly to each employee engaged in the Work. If the **Contractor** pays less than the rate of wages, including payments to health and welfare funds and pension funds, or the equivalent payments in wages to any person performing Work within the classifications as determined by the Commissioner of Labor and Industries, and if the **Contractor** takes or receives for its own use or the use of any other person, as a rebate, refund or gratuity, or in any other guise, any part or portion of the wages, including payments to health and welfare funds and pension funds, or the equivalent payment in wages, paid to such person for Work done or service rendered on the Project, the **Contractor** will be subject to the penalties set forth in M.G.L. c. 149, §27. Notwithstanding the foregoing and the requirements of 5.5.7.1 and 5.5.7.2 below, if the Contract is federally funded, federal labor standards apply, including Davis Bacon minimum wage rates and payroll reporting requirements. See the “Federal Requirements” section at the end of these contract documents.

5.5.7. Payroll Records of Employees. (*Reference: M.G.L. c. 149, §27B;*). The **Contractor** and all Subcontractors who are subject to M.G.L. c. 149, §§27 and 27A shall keep a true and accurate record of all mechanics and apprentices, teamsters, chauffeurs, and laborers performing Work showing the name, address and occupational classification of each such employee, the hours worked by and the wages paid to all such employees. The **Contractor** and the Subcontractors shall submit a copy of said record to the **City** on a weekly basis.

5.5.7.1. (*Reference: M.G.L. c. 149, §27B;*). The **Contractor** and all Subcontractors who are subject to M.G.L. c. 149, §§27 and 27A shall preserve their payroll records for a period of three (3) years from the date of completion of the Contract.

5.5.7.2. (*Reference: M.G.L. c. 149, §27B*). The **Contractor** and all Subcontractors who are subject to M.G.L. c. 149, §§27 and 27A shall furnish to the Commissioner of Labor and Industries and the **City** within fifteen (15) days after completion of their portion of the Work a statement executed by the **Contractor** or Subcontractor or by any authorized officer or employee of the **Contractor** or Subcontractor who supervises the payment of wages in the form found in M.G.L. c.149, §27B.

5.6. Superintendence.

5.6.1. Employment of a Superintendent. The **Contractor** shall employ a competent, properly licensed superintendent, reasonably acceptable to the **City**, and necessary assistants who shall be in attendance at the Site full time during the progress of the Work until the date of Substantial Completion and for such additional time thereafter as the **Design Professional** or the **City** may determine to be necessary for the expeditious completion of the Work, including final completion. If continually in the employ of the Contractor, the same Superintendent shall be assigned to this project.

5.6.2. Removal/Replacement of a Superintendent. The **Contractor** shall remove the superintendent if requested to do so in writing by the **City** and shall promptly replace such superintendent with a competent person reasonably acceptable to the **City**. The superintendent shall represent the **Contractor**, and communications given to the superintendent shall be as binding as if given to the **Contractor**. The **Contractor** shall not replace the superintendent without written notice to the **City** and the **Design Professional**.

5.6.3. Registered Professional Engineer or Registered Land Surveyor. The **Contractor** shall retain a competent Registered Professional Engineer or Registered Land Surveyor, acceptable to the **Engineer**, who shall establish the exterior lines and required elevations of all buildings and structures to be erected on the site and shall establish sufficient lines and grades for the construction of associated Work such as, but not limited to, roads, utilities, and site grading. The Engineer or Land Surveyor shall certify as to the actual location of the constructed facilities in relation to property lines, building lines, easements, and other restrictive boundaries.

5.6.4. Building Grades, Lines, Etc.; The **Contractor** shall establish the building grades; lines; levels; and column, wall and partition lines required by the various Subcontractors in laying out their Work.

5.6.5. Coordination and Supervision. The **Contractor** shall coordinate and supervise the Work performed by Subcontractors to the end that the Work is carried out without conflict between trades and so that no trade, at any time, causes delay to the general progress of the Work. The **Contractor** and all Subcontractors shall at all times afford each trade, any separate contractor, or the **City**, every reasonable opportunity for the installation of Work and the storage of materials.

5.6.6. Job Meetings. There shall be job meetings held on a weekly basis, or more often if required by the **City**. The **Contractor** shall arrange for and attend weekly job meetings with the **Design Professional** and such other persons as the **Design Professional** may from time to time wish to have present. The **Contractor** shall be represented by a principal, project manager, general superintendent or other authorized main office representative, as well as by the **Contractor's** own superintendent. An authorized representative of any Subcontractor or Sub-subcontractor shall attend such meetings if the representative's presence is requested by the **Design Professional**. Such representatives shall be empowered to make binding commitments on all matters to be discussed at such meetings, including costs, payments, Change Orders, time schedules and workforce power. Any notices required under the Contract may be served on such representatives.

5.7. Materials, Labor, Equipment, Etc.

5.7.1. Provision of. Unless otherwise provided in the Contract Documents, the **Contractor** shall furnish and assume full responsibility for all materials, equipment, labor, transportation, construction equipment and machinery, tools, appliances, fuel, power, light, heat, telephone, water, sanitary facilities, temporary facilities, and all other facilities and incidentals necessary for the furnishing, performance, testing, start-up, and completion of the Work. The Contractor shall and will, in good workmanlike manner, do and perform all work and furnish all supplies and materials, machinery, equipment, facilities and means, except as herein otherwise expressly specified, necessary or proper to perform and complete all the work required by this contract, within the time herein specified, in accordance with the provisions of this contract and said specifications and in accordance with the plans and drawings, and in accordance with the directions of the Design Professional or CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) as given from time to time during the progress of the work. He shall furnish, erect, maintain and remove such construction plant and such temporary works as may be required. The Contractor shall observe, comply with and be subject to all terms, conditions, requirements and limitations of the contract and specifications, and shall do, carry on and complete the entire work to the satisfaction of the Design Professional and CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT).

5.7.1.1. The Contractor shall furnish, install and/or maintain ample sanitary facilities for the workmen. As the needs arise, a sufficient number of enclosed temporary toilets shall be conveniently placed as required by the sanitary codes of the State and Local Government. Drinking water shall be provided from an approved source, so piped or transported as to keep it safe and fresh and served from single service containers or satisfactory types of sanitary drinking stands or fountains. All such facilities and services shall be furnished in strict accordance with existing and governing health regulations. Nothing in this Section shall be construed as forbidding the use of facilities available in existing buildings on the job site if they meet the above requirements and the use of them will not interfere with the progress of the work.

5.7.2. Quality and Use of. All materials and equipment shall be of good quality and new, except as otherwise provided in the Contract Documents. If required by the **Design Professional**, the **Contractor** shall furnish satisfactory evidence (including reports of required tests) as to the kind and quality of materials and equipment. All materials and equipment shall be applied, installed, connected, erected, used, cleaned, and conditioned in accordance with instructions of the applicable Supplier, except as otherwise provided in the Contract Documents.

5.7.3. Discrepancies or Defects. If the **Contractor** is unable to perform its Work because of discrepancies or defects in the work of the **City's** own forces or of a separate contractor, the **Contractor** shall immediately notify the **Design Professional** and the **City** in writing of the conditions that render unable to so perform. Failure to notify the **Design Professional** constitutes an acknowledgment and acceptance of the other work as being fit and proper for integration with the **Contractor's** Work except for latent or non-apparent defects and deficiencies in the other work.

5.8. Contractor's Management and Financial Statement Requirements. (Reference: M.G.L. c. 30, §39R)

5.8.1. The words defined herein shall have the meaning stated below whenever they appear in this Paragraph:

5.8.1.1. "Contractor" means any person, corporation, partnership, joint venture, sole proprietorship, or other entity awarded a contract pursuant to M.G.L. c.149, §44A-H or M.G.L. c. 30, §39M, inclusive.

5.8.1.2. "Contract" means any contract awarded or executed pursuant to M.G.L. c. 149, §44A-H or M.G.L. c. 30, §39M, which is for an amount or estimate amount that exceed the dollar amount set forth in M.G.L. c. 30, §39R.

5.8.1.3. "Records" means books of original entry, accounts, checks, bank statements and all other banking documents, correspondence, memoranda, invoices, computer printouts, tapes, discs, papers and other documents or transcribed information of any type, whether expressed in ordinary or machine language.

5.8.1.4. "Independent Certified Public Accountant" means a person duly registered in good standing and entitled to practice as a certified public accountant under the laws of the place of his/her residence or principal office and who is

in fact independent. In determining whether an accountant is independent with respect to a particular person, appropriate consideration should be given to all relationships between the accountant and that person or any affiliate thereof. Determination of an accountant's independence shall not be confined to the relationships existing in connection with the filing of reports with the **City**.

5.8.1.5. "Audit," when used in regard to financial statement, means an examination of records by an independent certified public accountant in accordance with generally accepted accounting principles and auditing standards for the purpose of expressing a certified opinion thereon, or, in the alternative, a qualified opinion or a declination to express an opinion for stated reasons.

5.8.1.6. "Accountant's Report," when used in regard to financial statements, means a document in which an independent certified accountant indicates the scope of the audit which s/he has made and sets forth his/her opinion regarding the financial statements taken as a whole with listing of noted exceptions and qualifications, or an assertion to the effect that an overall opinion cannot be expressed. When an overall opinion cannot be expressed the reason therefor shall be stated. An accountant's report shall include as part thereof a signed statement by the responsible corporate officer attesting that management has fully disclosed all material facts to the independent certified public accountant, and that the audited financial statement is a true and complete statement of the financial condition of the contractor.

5.8.1.7. "Management," when used herein, means the chief executive officers, partners, principals or other person or persons primarily responsible for the financial and operational policies and practices of the Contractor.

5.8.1.8. Accounting terms, unless otherwise defined herein shall have a meaning in accordance with generally accepted accounting principles and auditing standards.

5.8.2. The Contractor shall make, and keep for at least six (6) years after final payment, books, Records, and accounts that in reasonable detail accurately and fairly reflect the transactions and dispositions of the Contractor.

5.8.2.1 Federal Requirements: The Contractor shall permit the City, HUD and/or any other administering agency named herein, the Comptroller General of the United States, or any of their duly authorized representatives, to have access to any books, documents, papers, and records of the Contractor which are directly pertinent to a specific HUD program for the purpose of making audits, examinations, excerpts, and transcriptions.

5.8.3. Until the expiration of six (6) years after final payment, the Office of the Inspector General, and the Deputy Commissioner of the Division of Capital Asset Management shall have the right to examine any books, documents, papers or Records of the Contractor or of its Subcontractors that directly pertain to, and involve transactions relating to, the Contractor or its Subcontractors.

5.8.4. The Contractor shall describe any change in the method of maintaining Records or recording transactions which materially affect any statements filed with the **City**, including in its description the date of the change and reasons therefor, and shall accompany said description with a letter from the Contractor's Independent Certified Public Accountant approving or otherwise commenting on the changes.

5.8.5. The Contractor shall file a Statement of Management on internal accounting controls as set forth below prior to the execution of the Contract.

5.8.6. The Contractor shall file prior to the execution of the contract and shall continue to file annually, an Audited Financial Statement for the most recent completed fiscal year as set forth below.

5.8.7. The Contractor shall file with the **City** a Statement of Management as to whether the system of internal accounting controls of the Contractor and its subsidiaries reasonably assures that:

5.8.7.1. transactions are executed in accordance with Management's general and specific authorization;

5.8.7.2. transactions are recorded as necessary to permit preparation of financial statements in conformity with generally accepted accounting principles, and to maintain accountability for assets;

5.8.7.3. access to assets is permitted only in accordance with Management's general or specific authorization; and

5.8.7.4. the recorded accountability for assets is compared with the existing assets at reasonable intervals and appropriate action is taken with respect to any difference.

5.8.7.5. The Contractor shall also file with the **City** a statement prepared and signed by an Independent Certified Public Accountant stating that s/he has examined the Statement of Management on internal accounting controls, and expressing an opinion as to:

5.8.7.5.1. whether the representation of Management in response to this paragraph and paragraphs 5.8.2. through 5.8.6 above are consistent with the result of Management's evaluation of the system of internal accounting controls; and

5.8.7.5.2. whether such representations of Management are, in addition, reasonable with respect to transactions and assets in amounts which would be material when measured in relation to the applicant's financial statements.

5.8.8. The Contractor shall annually file with the Commissioner of the Division of Capital Asset Management during the term of the contract a financial statement prepared by an Independent Certified Public Accountant on the basis of an Audit by such accountant. The final statement filed shall include the date of final payment. All statements shall be accompanied by an accountant's report. Such statements shall be made available to the **City** upon request.

5.8.9. The City's Contracting Department, its authorized representative and agents and the HUD Representative for the Secretary shall, at all times have access to and be permitted to observe and review all work materials, equipment, payrolls, personnel records, employment conditions, material invoices, and other relevant data and records pertaining to this Contract, provided, however, that all instructions and approval with respect to the work will be given to the Contractor only by **CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT)** through its authorized representatives or agents. Records and statements required to be made, kept or filed under the provisions of this section shall not be public records as defined in G.L. 4, §7 or equivalent federal legislation. They shall not be made available to the public, but shall be available only to the governmental authorities named herein.

5.9. Taxes.

5.9.1 The **Contractor** shall pay all sales, consumer, use, and other similar taxes for the Work or portions thereof which are provided by the **Contractor** which are legally enacted when bids are received, whether or not yet effective or merely scheduled to go into effect. However, the **Contractor** shall not pay, and the **City** shall not reimburse or pay the **Contractor** for, any sales taxes for building supplies or materials for which an exemption is provided in M.G.L. c. 64H, §6(f). The **City's** tax exemption number to be used by the **Contractor** in this regard is E04-600-1414.

5.10. Permits, Licenses, and Fees.

5.10.1 Unless otherwise provided, the **Contractor** shall obtain and pay the fees for all permits, licenses, and inspections that are necessary for the proper execution and completion of the Work and which are customarily secured after execution of the Contract and which are legally required. All fees for permits, licenses, and inspections required by any **City** department shall be waived. Unless otherwise agreed by the Awarding Authority in writing, the Contractor shall, prior to commencement of the work, (i) meet with the City of Somerville Inspectional Services Department to determine what permits are needed for the work; (ii) obtain all such permits; and (iii) provide copies of such permits to the Awarding Authority. Permits shall include, without limitation, demolition, foundation, digsafe, and building permits; permits for removal, sealing up, or installation of utilities, including gas, electrical, water and sewer; and permits for obstructing public streets and sidewalks.

5.11. Notices Required By Statutes, Ordinances, Codes, Rules, Regulations, and Orders of the City.

5.11.1 The **Contractor** shall give notices required by statutes, ordinances, codes, rules, regulations, and orders of the **City** bearing on performance of the Work.

5.12. Additional Information from Design Professional.

5.12.1. The **Contractor** shall perform the Work in accordance with the Contract Documents and submittals approved pursuant to Article 4.

5.12.2. The **Contractor** shall give the **Design Professional** timely notice of any additional Plans, Specifications, or instructions required to define the Work in greater detail, or to permit the proper progress of the Work.

5.12.3. The **Contractor** shall not proceed with any Work not clearly and consistently defined in detail in the Contract Documents, but shall request additional drawings or instructions from the **Design Professional** as provided in the previous Paragraph. If the **Contractor** proceeds with such Work without obtaining further drawings, Specifications, or instructions, the **Contractor** shall correct Work incorrectly done at the **Contractor's** own expense.

5.13. "Or equal."

5.13.1. Requirements for Substitutions. (*Reference:* M.G.L. c. 30, §39M(b).) Where products or materials are prescribed by manufacturer name, trade name, or catalog reference, the words "or approved equal" shall be understood to follow. An item shall be considered equal to the item so named or described if, in the opinion of the **Design Professional**:

5.13.1.1. it is at least equal in quality, durability, appearance, strength, and design;

5.13.1.2. it performs at least equally the function imposed by the general design for the Work;

5.13.1.3. it conforms substantially, even with deviations, to the detailed requirements for the items as indicated by the Specifications.

5.13.2. Net Savings. No proposed substitution will be permitted unless the **Contractor** certifies that the proposed substitution will yield a net savings to the **City** and will not extend the Contract Time.

5.13.3. Contractor's Expense. Any structural or mechanical changes made necessary to accommodate substituted

equipment under this paragraph (including but not limited to engineering fees) shall be at the expense of the **Contractor** or **Subcontractor** responsible for the Work item.

5.13.3.1. Any additional cost, or any loss or damage arising from the substitution of any material or any method for those originally specified shall be borne by the **Contractor**, notwithstanding approval or acceptance of such substitution by the **City** or the **Design Professional**, unless such substitution was made at the written request or direction of the **City** or the **Design Professional**.

5.13.3.2. All data to be provided by the **Contractor** in support of any proposed “or equal” or substitute item will be at the **Contractor's** expense.

5.13.4. Meeting Requirements. The **Contractor** shall be responsible for determining that all materials furnished for the Work meet all requirements of the Contract Documents. The **Design Professional** may require the **Contractor** to produce reasonable evidence that a material meets such requirements, such as certified reports of past tests by qualified testing laboratories, reports of studies by qualified experts, or other evidence which, in the opinion of the **Design Professional**, would lead to a reasonable certainty that any material used, or proposed to be used, in the Work meets the requirements of the Contract Documents. All such data shall be furnished at the **Contractor's** expense. This provision shall not require the **Contractor** to pay for periodic testing of different batches of the same material, unless such testing is specifically required by the Contract Documents to be performed at the **Contractor's** expense.

5.13.5. Named Manufacturer's Product. In all cases in which a manufacturer's name, trade name, or other proprietary designation is used in connection with materials or articles to be furnished under this Contract, whether or not the phrase “or equal” is used after such name, the **Contractor** shall furnish the product of the name manufacturer(s) without substitution, unless a written request for a substitute has been submitted by the **Contractor** and approved in writing by the **Design Professional** as provided in the following paragraph.

5.13.6. Deviations. If the **Contractor** proposes to use a material which while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, the **Contractor** shall inform the **Design Professional** in writing of the nature of such deviations at the time the material is submitted for approval and shall request written approval of the deviation from the requirements of the Contract Documents.

5.13.7. Rejection of Deviations. In requesting approval of deviations or substitutions, the **Contractor** shall provide, upon request, evidence leading to a reasonable certainty that the proposed substitution or deviation will provide a quality of result at least equal to that otherwise attainable. If, in the opinion of the **Design Professional**, the evidence presented by the **Contractor** does not provide a sufficient basis for such reasonable certainty, the **Design Professional** may reject such substitution or deviation without further investigation.

5.13.8. Consistent Character and Quality of Design. The Contract Documents are intended to produce a building of consistent character and quality of design. All components of the building including visible items of mechanical and electrical equipment have been selected to have a coordinated design in relation to the overall appearance of the Project. The **Design Professional** shall judge the design and appearance of proposed substitutes on the basis of their suitability in relation to the overall design of the Project, as well as for their intrinsic merits. The **Design Professional** will not approve as equal to materials specified proposed substitutes that, in the **Design Professional's** opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the Project. In order to permit coordinated design of color and finishes the **Contractor** shall, if required by the **Design Professional**, furnish the substituted material in any color, finish, texture, or pattern which would have been available from the manufacturer originally specified, at no additional cost to the **City**.

5.13.9. Warranty. The warranties provided herein shall be in addition to and not in limitation of any other warranty required by the Contract Documents or otherwise prescribed by law.

5.13.10. Design Professional's Approval. The **Design Professional** will be the sole judge of acceptability. No “or equal” or substitute will be ordered, installed, or utilized without the **Design Professional's** prior written acceptance which will be evidenced by either a Change Order or an approved Shop Drawing. The **City** may require the **Contractor** to furnish at the **Contractor's** expense a special performance guarantee or other surety with respect to any “or equal” or substitute. The **Design Professional** will record the time required by the **Design Professional** and its consultants in evaluating substitutes proposed or submitted by the **Contractor** and in making changes in the Contract Documents (or in the provisions of any other direct contract with the **City** for work on the Project) occasioned thereby. Whether or not the **Design Professional** accepts a substitute item so proposed or submitted by the **Contractor**, the **Contractor** shall reimburse the **City** for the charges of the **Design Professional** and its consultants for evaluating each such proposed substitute item.

5.14. Substitute Construction Methods or Procedures.

5.14.1 If a specific means, method, technique, sequence, or procedure of construction is shown or indicated in and expressly required by the Contract Documents, the **Contractor** may furnish or utilize a substitute means, method, technique, sequence or procedure of construction acceptable to the **Design Professional**. The **Contractor** shall submit sufficient information to allow the **Design Professional**, in the **Design Professional's** sole discretion, to determine whether the substitute

proposed is equivalent to that expressly called for by the Contract Documents.

5.15. Contractor's Progress Schedule.

5.15.1. Before Starting Construction. Within ten (10) days after the date of the Notice to Proceed, the **Contractor** shall submit to the **Design Professional** for review:

5.15.1.1. a preliminary progress schedule indicating the times (number of days or dates) for starting and completing the various stages of the Work;

5.15.1.2. a preliminary schedule of Shop Drawing and Sample submittals which will list each required submittal and the times for submitting, reviewing, and processing such submittal; and

5.15.1.3. a refined schedule of values for all of the Work which will include quantities and prices of items aggregating the Contract Sum and will subdivide the Work into component parts in sufficient detail to serve as the basis for progress payments during construction. Such prices will include an appropriate amount of overhead and profit applicable to each item of Work.

5.15.2. Review of Progress Schedule. At least ten (10) days prior to the commencement of construction, the **Design Professional**, the **Contractor**, and any other appropriate persons will meet to review and discuss the acceptability to the **Design Professional** of the progress schedule. The **Contractor** will have an additional ten (10) days to make corrections and adjustments and to complete and resubmit the schedule. No progress payment shall be made to the **Contractor** until the schedule is submitted to and found acceptable by the **Design Professional** as provided below.

5.15.3. Acceptability of Progress Schedule. The progress schedule will be acceptable to the **Design Professional** if, according to the **Design Professional**, it provides an orderly progression of the Work to completion within any specified time frame, but such acceptance will neither impose on the **Design Professional** responsibility for the sequencing, scheduling, or progress of the Work nor interfere with or relieve the **Contractor** from the **Contractor's** full responsibility therefore. The **Contractor's** schedule of Submittals must be acceptable to the **Design Professional** in providing a workable arrangement for reviewing and processing the required Submittals. The **Contractor's** schedule of values must be acceptable to the **Design Professional** as to form and substance.

5.15.4. Sepia and Copies. After the **Design Professional** has approved the schedule, the **Contractor** shall submit to the **Design Professional** one (1) sepia and four (4) copies bearing the **Contractor's** stamp of approval as a representation to the **City** that the **Contractor** has determined or verified all data on that progress schedule and that the **Contractor**, the Subcontractors and Suppliers have reviewed and coordinated the sequences in that progress schedule with the requirements of the Work.

5.15.5. Adjustment of Schedule. The **Contractor** shall adhere to the established progress schedule which may be adjusted from time to time as follows: the **Contractor** shall submit to the **Design Professional** for acceptance proposed adjustments in the progress schedule that will not change the Contract Time. Such adjustments will conform generally to the progress schedule then in effect and will comply with any provisions of the requirements applicable thereto.

5.15.6. During Construction. The **Contractor** shall submit monthly progress schedules to the **Design Professional**. The schedules shall stay current with the **Contractor's** approach to the Work remaining.

5.15.7. Schedule of Submittals. The **Contractor** shall prepare and keep current, for the **Design Professional's** approval, a schedule of Submittals that is coordinated with the **Contractor's** construction schedule and allows the **Design Professional** reasonable time to review Submittals.

5.16. Project Coordination.

5.16.1. In General. The **Contractor** shall be responsible for the proper coordination of the Work of all of the trades.

5.16.2. Coordination with Subcontractors. The **Contractor** shall coordinate the work of each Subcontractor with the Work of every other Subcontractor whose Work affects the other.

5.16.3. Coordination with the City's Own Forces or Separate Contractors. The **Contractor** shall coordinate its operations with those of the **City's** own forces or separate contractors. The **Contractor** shall provide the **City's** own forces and separate contractors a reasonable opportunity for the handling, unloading and storage of their materials and equipment and execution of their work. The **Contractor** shall connect and coordinate its Work with theirs.

5.16.4. Coordination with Utility Companies. The **Contractor** shall coordinate its operations with all the appropriate utility companies to assure that the utilities required on the Project are available and functioning properly pursuant to the requirements of the Contract Documents.

5.17. Project Photographs.

5.17.1. In General. The **Contractor** shall take, at its own expense, interior and exterior photographs at the site, from different vantages as directed by the **Design Professional** or the **City**, before beginning any Work and thereafter, at a minimum, on the first work day of each month until final completion of the Work, including final Site photos. Photos shall be taken of any

Work that will be buried or concealed while the Work is still exposed. The photographs shall be taken by a skilled commercial photographer. The number of photographs required shall be at the discretion of the **City** or the **Design Professional**. One aerial photo shall be required a) prior to commencement of the work and b) at the completion of the work. See Section 01320 – Construction Progress Documentation.

5.17.2. Prints and Digital Media. Within fourteen (14) days after the photographs have been taken, the **Contractor** shall cause prints to be made and delivered to the **City** and the **Design Professional**. All photographs shall be 8” x 10”. Each print shall state the date of the photograph, the name of the Project, the description of the view and the name and address of the photographer. The **City** shall receive one glossy print of each photo as well as all prints in digital form on compact disc. The **Design Professional** shall receive one glossy print.

5.17.3. Failure to Comply. Should the **Contractor** fail to adhere to any requirement set forth in the previous two paragraphs, the **City** may have the photographs taken at the **Contractor's** expense or receive a set-off against the **Contractor's** next application for payment.

5.18. Record Documents and Samples at the Site.

5.18.1 The **Contractor** shall maintain in a safe place at the site one record copy of all Plans, Specifications, Modifications, Change Orders, **Construction Change** Directives, Field Orders and written interpretations and clarifications in good order and annotated to show all changes made during construction. These record documents together with all approved Samples and a counterpart of all approved Shop Drawings will be available to the **Design Professional** for reference. Upon completion of the Work, these record documents, Samples and Shop Drawings will be delivered by the **Contractor** to the **Design Professional** for the **City**.

5.19. Submittals.

5.19.1. Purpose. The purpose of Submittals is to demonstrate for those portions of the Work for which Submittals are required the way the **Contractor** proposes to conform to the information given and the design concept expressed in the Contract Documents.

5.19.2. Submittal Procedure. Within ten (10) days from the Notice to Proceed, the **Contractor** shall submit to the **Design Professional** a completed Submittals schedule. The **Contractor** shall review, approve, and submit to the **Design Professional** Submittals required by the Contract Documents with reasonable promptness and in such sequence as to cause no delay in the Work or in the activities of the **City** or of separate contractors. Submittals made by the **Contractor** that are not required by the Contract Documents may be returned without action. The schedules shall be updated and resubmitted each month. All Submittals will be identified as the **Design Professional** may require and in the number specified in the General Requirements. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials, and similar data to show the **Design Professional** the materials and equipment that the **Contractor** proposes to provide and to enable the **Design Professional** to review the information for the limited purposes stated below.

5.19.3. Samples. The **Contractor** shall also submit Samples to the **Design Professional** for review and approval in accordance with said accepted schedule of Submittals. Each Sample will be identified clearly as to material, Supplier, pertinent data such as catalog numbers and the use for which it is intended and otherwise as the **Design Professional** may require to enable the **Design Professional** to review the Submittal for the limited purposed stated below. The numbers of each Sample to be submitted will be as specified in the Specifications. Unless otherwise specified in the Specifications, three (3) specimens of each Sample shall be submitted.

5.19.3.1. The Samples shall be of sufficient size to permit proper evaluation of material. Where variations in color or other characteristics are to be expected, samples showing the minimum range of variation shall be submitted. Materials exceeding the range of variation of the approved Samples will not be approved on the Work.

5.19.3.2. All costs associated with delivery of Samples will paid by the **Contractor**.

5.19.4. Contractor’s Verifications. Before submitting each Submittal, the **Contractor** shall have determined and verified:

5.19.4.1. all field measurements, quantities, dimensions specified performance criteria, installation requirements, materials, catalog numbers, and similar information with respect thereto;

5.19.4.2. all materials with respect to intended use, fabrication, shipping, handling, storage, assembly, and installation pertaining to the performance of the Work; and

5.19.4.3. all information relative to the **Contractor's** sole responsibilities in respect of means, methods, techniques, sequences, and procedures of construction and safety precautions and programs incident thereto.

5.19.5. Contractor’s Representations. By approving and providing Submittals, the **Contractor** thereby represents that the **Contractor** has determined and verified all dimensions, quantities, field dimensions, relations to existing Work, coordination with Work to be installed later, coordination with information on previously accepted Submittals and verification of

compliance with all the requirements of the Contract Documents. The accuracy of all such information is the responsibility of the **Contractor**. In reviewing Submittals, the **Design Professional** shall be entitled to rely upon the **Contractor's** representation that such information is correct and accurate.

5.19.6. Coordination. The **Contractor** shall also have reviewed and coordinated each Submittal with other Submittals and with the requirements of the Work and the Contract Documents.

5.19.7. Stamp or Specific Written Indication. Each Submittal will bear a stamp or specific written indication that the **Contractor** has satisfied the **Contractor's** obligations under the Contract Documents with respect to the **Contractor's** review and approval of that Submittal.

5.19.8. Written Notice of Variations. At the time of each Submittal, the **Contractor** shall give the **Design Professional** specific written notice of such variations, if any, that the Submittal may have from the requirements of the Contract Documents. Such notice is to be in a written communication separate from the Submittal. Moreover, the **Contractor** shall make a specific notation on each Submittal to the **Design Professional** for review and approval of each such variation.

5.19.9. Review and Approval by the Design Professional. The **Contractor** shall perform no portion of the Work requiring a Submittal until the respective Submittal has been approved by the **Design Professional**. Such Work shall be in accordance with approved Submittals.

5.19.9.1. The **Design Professional** will review and approve Submittals in accordance with the schedule of Submittals accepted by the **Design Professional** as required above. The **Design Professional's** review and approval will be only to determine if the items covered by the Submittals will, after installation or incorporation in the Work, conform to the information given in the Contract Documents and be compatible with the design concept of the completed Project as a functioning whole as indicated in the Contract Documents. The **Design Professional's** review and approval will not extend to means, method, technique, sequences, or procedures of construction (except where a particular means, method, technique, sequences or procedures of construction is specifically and expressly called for by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions.

5.19.10.Deviations. The **Contractor** shall not be relieved of responsibility for deviations from requirements of the Contract Documents by the **Design Professional's** approval of Submittals unless the **Contractor** has specifically informed the **Design Professional** in writing of such deviation at the time of Submittal and the **Design Professional** has given written approval to the specific deviation. The **Contractor** shall not be relieved of responsibility for errors or omissions in Submittals by the **Design Professional's** approval thereof.

5.19.11.Revisions. The **Contractor** shall make corrections required by the **Design Professional** and shall return the required number of corrected copies of Submittals and submit as required new Submittals for review and approval. The **Contractor** shall direct specific attention, in writing or on resubmitted Submittals, to revisions other than those requested by the **Design Professional** on previous Submittals. Unless such written notice has been given, the **Design Professional's** approval of a resubmitted Submittal shall not constitute approval of any changes not requested on the prior Submittal.

5.19.12.Related Work. Where a Submittal is required by the Contract Documents or the schedule of Submittals accepted by the **Design Professional**, any related Work performed prior to the **Design Professional's** review and approval of the pertinent Submittal will be at the sole expense and responsibility of the **Contractor**.

5.19.13.Informational Submittals. Informational Submittals upon which the **Design Professional** is not expected to take responsive action may be so identified in the Contract Documents.

5.19.14.Certification. When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the **City** shall be entitled to rely upon such certifications, and neither the **City** nor the **Design Professional** shall be expected to make any independent examination with respect thereto.

5.20. Continuing the Work.

5.20.1. The **Contractor** shall carry on the Work and adhere to the progress schedule during all disputes or disagreements with the **City**. No Work shall be delayed or postponed pending resolution of any disputes or disagreements, except as otherwise provided herein or as the **City** and the **Contractor** may agree in writing.

5.21. Use of Site; Access to Work.

5.21.1. The right of possession of the premises and the improvements made thereon by the **Contractor** shall remain at all times in the **City**. The **Contractor's** right to entry and use thereof arises solely from the permission granted by the **City** under the Contract Documents. The **Contractor** shall confine the **Contractor's** apparatus, the storage of materials, and the operations of the **Contractor's** workers to limits indicated by law, ordinance, the Contract Documents and permits and/or directions of the **Design Professional** and shall not unreasonably encumber the premises with the **Contractor's** materials. The **City** shall not be liable to the **Contractor**, the Subcontractors, Suppliers, or anyone else with respect to the conditions of the premises, except for a condition caused directly and solely by the negligence of the **City**.

5.21.2. At all times, the **City** and the **Design Professional** shall have access to the Work.

5.22. Protection of Persons and Property.

5.22.1. In General. The **Contractor** shall be responsible for initiating, maintaining, and supervising all health and safety precautions and programs in connection with the performance of the Contract. The **Contractor** is responsible for the implementation of all Federal, State, and local health and safety requirements. The Contractor shall be responsible for all damages to persons or property that occur as a result of the Contractor's fault or negligence in connection with the prosecution of the work and shall be responsible for the proper care and protection of all materials delivered and work performed until completion and final acceptance by CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT).

The Contractor shall provide sufficient competent watchmen, both day and night, including Saturdays, Sundays and holidays, as necessary, from the time the work is commenced until final completion and acceptance. Sufficient lighting shall be provided to aid in the prevention of injury to passersby or vandalism to the property or other illegal activities.

The Contractor shall avoid damage as a result of its operations to existing sidewalks, streets, curbs, pavements, utilities (except those which are to be replaced or removed), adjoining property, etc. and the Contractor shall at its own expense completely repair any damage thereto caused by its operations.

The Contractor shall shore up, brace, underpin, secure, and protect as may be necessary, all foundations and other parts of existing structure adjacent to, adjoining, and in the vicinity of the site, which may be in any way affected by the excavations or other operations connected with the construction of the improvements embraced in this Contract. The Contractor shall be responsible for the giving of any and all required notices to any adjoining or adjacent property owner or other party before the commencement of work. The Contractor shall indemnify and save harmless the City of Somerville and CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) from any liability for damages on account of settlement or the loss of lateral support of adjoining property resulting from the Contractor's failure to comply with this section.

5.22.1.1. If this contract is in excess of \$100,000 and is federally funded, the Contractor shall comply with all applicable standards, orders, or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401 et seq.) and the Federal Water Pollution Control Act as amended (33 U.S.C. 1251 et seq.)

5.22.1.2. If this contract is in excess of \$2,000 and is federally funded, the Contractor shall comply with Sections 103 and 107 of the Contract Work Hours Safety Standards Acts (40 U.S.C. 327-333), as supplemented by Department of Labor regulations at 29 CFR part 5. To that end, the Contractor shall compute the wages of every mechanic and laborer on the basis of a standard workweek of 40 hours. Work in excess of the standard workweek is permissible, provided that the worker is compensated at a rate of not less than 1-1/2 times the basic rate of pay for all hours worked in excess of 40 hours in the workweek. The Contractor shall ensure that no laborer or mechanic is required to work in surroundings or under working conditions which are unsanitary, hazardous, or dangerous.

5.22.2. The **Contractor** shall take reasonable precautions for safety of, and shall provide reasonable protection to prevent damage, injury, or loss to:

5.22.2.1. employees on the site and other persons who may be affected thereby;

5.22.2.2. the Work, materials, and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the **Contractor**, Subcontractors, or Sub-subcontractors;

5.22.2.3. other property at the site or adjacent or in close proximity thereto, such as trees, shrubs, lawns, walks, pavements, roadways, structures, and utilities not designated for removal, relocation, or replacement in the course of construction; and

5.22.2.4. any other property of the **City**, whether or not forming part of the Work, located at the site or adjacent thereto in areas to which the **Contractor** has access.

5.22.3. Notices and Compliance. The **Contractor** shall give notices and comply in all other respects with applicable laws, ordinances, rules, regulations, codes, and lawful orders of public authorities bearing on the safety of persons or property or their protection from damage, injury, or loss. The **Contractor** shall notify owners of adjacent and nearby properties of underground facilities and utility owners when prosecution of the Work may affect them and shall cooperate with them in the protection, removal, relocation, and replacement of their property.

5.22.3.1. Should the Contractor in the execution of his work uncover or discover utility service lines not indicated on the relevant drawings, or that do not show signs of singular service to any existing structures being demolished, the Contractor shall cease work in that area immediately and promptly notify the Public Works Department. Within forty-eight hours, the Public Works Department will inspect the site and issue written instructions to the Contractor. The Contractor shall proceed

with only after such written instructions have been received and shall proceed in full compliance with such instructions. The above mentioned situation or similar circumstances and/or modification if any, shall not relieve the Contractor from his responsibilities in this Contract and also it is without prejudice to any and all rights of CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) covering this said contract and surety or bonds.

5.22.4. Erection and Maintenance of Safeguards. The **Contractor** shall erect and maintain, as required by existing conditions and the terms of the Contract, reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying owners and users of adjacent and nearby sites and utilities.

5.22.5. Hazardous Materials and Equipment. When use or storage of explosives or other hazardous materials or equipment or unusual methods are necessary for execution of the Work, the **Contractor** shall exercise utmost care and carry on such activities under the supervision of properly qualified personnel.

5.22.6. Damage to Property. The **Contractor** shall promptly remedy damage and loss to property referred to above. If the damage or loss is due in whole or in part to the **Contractor's** failure to take the precautions required herein, the **Contractor** shall bear the cost, subject to any reimbursement to which the **Contractor** is entitled under property insurance required by the Contract Documents. The **Contractor** shall be fully and solely responsible for all Work and other operations carried out on adjacent properties. The insurance required under Article 8 shall cover such Work or operations, and the **Contractor** shall indemnify and defend the **City**, the **Design Professional**, and the owners of such adjacent or nearby properties from and against all claims, suits, losses, or costs arising out of such Work or operations.

5.22.7. Fire Protection Equipment and Services. The **Contractor** shall provide and maintain in good operating condition suitable and adequate fire protection equipment and services and shall comply with all reasonable recommendations regarding fire protection made by the representatives of the fire insurance company carrying insurance on the Work or by the local fire chief or fire marshal. The area within the site limits shall be kept orderly and clean and all combustible rubbish shall be promptly removed from the site.

5.22.8. Protection of Excavations, Trenches, etc. The **Contractor** shall at all times protect excavations, trenches, buildings and materials from rain water, ground water, backup or leakage of sewers, drains and other piping, and from water of any other origin and shall remove promptly any accumulation of water. The **Contractor** shall provide and operate all pumps, piping, and other equipment necessary to this end.

5.22.9. Snow and Ice Removal. The **Contractor** shall remove snow and ice that might result in damage or delay.

5.22.10. Safety Representative. The **Contractor** shall designate a qualified and experienced safety representative at the site whose duties and responsibilities shall be the prevention of accidents and the maintaining and supervising of safety precautions and programs.

5.22.11. Weather Protection. (*Reference: M.G.L. c. 149, §44F(1).*) The **Contractor** shall install weather protection and furnish adequate heat in the protected area from November 1 through March 31. In the event of temporary suspension of work, during inclement weather, the Contractor will carefully protect and will cause his subcontractors to carefully protect all work and materials against damage or injury from the weather. If, in the opinion of the Design Professional or CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT), any work or materials shall have been damaged or injured by reason of failure on the part of the Contractor or any of his Subcontractors so to protect the work, such work or materials shall be removed and replaced at the expense of the Contractor. These Specifications are not to be construed as requiring enclosures or heat for operations that are not economically feasible to protect in the judgment of CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT). Included in the preceding category, without limitation, are such items as site work, excavation, pile driving, steel erection, erection of certain "exterior" wall panels, roofing, and similar operation:

(1) "WEATHER PROTECTION" shall mean the temporary protection of that work adversely affected by moisture, wind and cold, by covering, enclosing and/or heating.

This protection shall provide adequate working areas during the months of November through March as determined by the Design Professional and consistent with the approved construction schedule to permit the continuous progress of all work necessary to maintain an orderly and efficient sequence of construction operations. The General Contractor shall furnish and install all "Weather Protection" material and be responsible for all costs, including heating required to maintain a minimum temperature of 40 degrees F, at the working surface. This provision does not supersede any specific requirements for methods of construction, curing of materials or the applicable General Conditions set forth in the Contract Articles with added regard to performance obligations of the Contractor.

(2) Within 30 calendar days after his award of contract, the General Contractor shall submit in writing to CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) for approval, three copies of his proposed methods for "Weather Protection".

(3) Installation of weather protection and heating devices shall comply with all safety regulations including provisions for

adequate ventilation and fire protection devices. Heating devices which may cause damage to finish surfaces shall not be used.

(4) The General Contractor shall furnish and install one accurate Fahrenheit thermometer at each work area as designated by the Designer. However, one additional accurate Fahrenheit thermometer shall be provided for every 2,000 square feet of floor space where the work areas exceed 2,000 square feet.

5.22.12. Security. The **Contractor** shall provide, within the Contract Sum, a sufficient number of security personnel at the Site at all times when the **Contractor's** personnel are not present, from commencement of the Work until Substantial Completion to assure that the Site, the facility, and the Work, and all materials and equipment stored at the Site are fully and completely protected against loss or damage due to vandalism, theft, or malicious mischief. If the **Contractor** elects, in addition, to use guard dogs for this purpose, each dog shall at all times be accompanied by an adult handler. If the **Contractor** fails to comply with the requirements of this paragraph, then the **City** may provide appropriate security and charge the cost thereof to the **Contractor**. The **City's** provision of such security, or failure to do so, shall not relieve the **Contractor** of its responsibility to pay for loss or damage due to vandalism, theft, or malicious mischief at the Site.

5.22.13. Hazard Communication Programs. The **Contractor** shall be responsible for coordinating any exchange of material safety data sheets or other hazard communications information required to be made available to or exchanged between or among employers at the site in accordance with laws, codes and regulations.

5.22.14. Noise Pollution Control. The **Contractor** shall comply with all applicable provisions of Somerville Municipal Code §9-109.

5.23. Cutting and Patching.

5.23.1. In General. Unless otherwise provided in the Contract Documents, the **Contractor** shall be responsible for cutting, fitting, or patching required to complete the Work or to make its parts fit together properly, including the work of the **City** or of separate contractors.

5.23.2. Damage to Work of City or of Separate Contractor. The **Contractor** shall not damage or endanger a portion of the Work or fully or partially completed construction of the **City** or separate contractors by cutting, patching, or otherwise altering such construction, or by excavation. The **Contractor** shall not cut or otherwise alter such construction by the **City** or a separate contractor except with prior written consent of the **City** and of such separate contractor; such consent shall not be unreasonably withheld. The **Contractor** shall not unreasonably withhold from the **City** or a separate contractor the **Contractor's** consent to cutting or otherwise altering the Work.

5.23.3. Damage Caused by Contractor. Should the **Contractor** cause damage to the work or property of any separate contractor at the Site, or should any claim arising out of the **Contractor's** performance of Work at the Site be made by any separate contractor against the **Contractor**, the **City**, the **Design Professional**, or any of the **Design Professional's** consultants, the **Contractor** shall promptly attempt to settle with such other contractor by agreement, or to otherwise resolve the dispute by arbitration or at law. The **Contractor** shall, to the fullest extent permitted by laws and regulations, indemnify and hold harmless the **City**, the **Design Professional**, and the **Design Professional's** consultants from and against all claims, damages, losses and expenses (including, but not limited to, fees of the Design Professional, the Design Professional's consultants, attorneys, and other professionals, and court and arbitration or mediation costs) arising directly, indirectly or consequentially out of any action, legal or equitable, brought by any separate contractor against the **City**, the **Design Professional**, or any of the **Design Professional's** consultants, to the extent based on a claim arising out of the **Contractor's** performance of the Work. Should a separate contractor cause damage to the Work or property of the **Contractor** or should the performance of work by any separate contractor at the site give rise to any other claim, the **Contractor** shall not institute any action, legal or equitable, against the **City**, the **Design Professional**, or any of the **Design Professional's** consultants, or permit any action against any of them to be maintained and continued in its name or for its benefit in any court or before any arbiter which seeks to impose liability on or to recover damages from the **City**, the **Design Professional**, or any of the **Design Professional's** consultants, on account of any such damage or claim. If the **Contractor** delays at any time in performing or furnishing Work by any act or neglect of a separate contractor and the **City** and the **Contractor** are unable to agree as to the extent of any adjustment in the Contract Time attributable thereto, the **Contractor** may make a claim for an extension of time in accordance with Article 16. An extension of the Contract Time shall be the **Contractor's** exclusive remedy with respect to the **City**, the **Design Professional**, and the **Design Professional's** consultants, for any delay, disruption, interference, or hindrance caused by any separate contractor.

5.24. Cleaning Up.

5.24.1. During the progress of the Work, the **Contractor** shall keep the premises and surrounding area free from accumulation of waste materials and rubbish caused by operations under the Contract or other debris. At the completion of the Work, the **Contractor** shall remove from and about the Project all waste materials, rubbish, and debris, and the **Contractor's** tools, construction equipment, machinery, and surplus materials. Surplus materials to be provided to the **City** by specifications shall be stored in a clean, safe and secure area as directed by the **City**. The **Contractor** shall leave the site clean and ready for

occupancy by the **City** at Substantial Completion of the Work. Immediately prior to the **Design Professional's** inspection for Substantial Completion, the **Contractor** shall completely clean the premises. Concrete and ceramic surfaces shall be cleaned and washed. Resilient coverings shall be cleaned, waxed and buffed. Woodwork shall be dusted and cleaned. Sash, fixtures and equipment shall be thoroughly cleaned. Stains, spots, dust, marks and smears shall be removed from all surfaces. Hardware and all metal surfaces shall be cleaned and polished. Glass and plastic surfaces shall be thoroughly cleaned by professional window cleaners. All damaged, broken or scratched glass or plastic shall be replaced by the **Contractor** at the **Contractor's** expense. The **Contractor** shall restore to original condition all property not designated for alteration by the Contract Documents.

5.24.2. If the **Contractor** fails to clean up as provided herein, the **City** may do so and charge the cost thereof to the **Contractor**.

5.25. Royalties and Patents.

5.25.1 The **Contractor** shall pay all license fees and royalties and assume all costs incident to the use in the performance of the Work or the incorporation in the Work of any invention, design, process, product, or device which is the subject of patent rights or copyrights held by others. To the fullest extent permitted by law, the **Contractor** shall indemnify and hold harmless the **City** and the **Design Professional** from and against all claims, costs, losses, and damages arising out of or resulting from any infringement of patent rights or copyrights incident to the use in the performance of the work or resulting from the incorporation in the work of any invention, design, process, product, or device not specified in the Contract Documents.

5.26. Contractor's Obligation to Perform.

5.26.1. The **Contractor's** obligation to perform and complete the Work in accordance with the Contract Documents is absolute. None of the following will constitute an acceptance of Work that is not in accordance with the Contract Documents or a release of the **Contractor's** obligation to perform the Work in accordance with the Contract Documents:

- 5.26.1.1.** observations by the **Design Professional**;
- 5.26.1.2.** recommendation of any progress or final payment by the **Design Professional**;
- 5.26.1.3.** the issuance of a certificate of Substantial Completion or any payment by the **City** to the **Contractor** under the Contract Documents;
- 5.26.1.4.** use or occupancy of the Work, Project, or Site, or any part thereof, by the **City**;
- 5.26.1.5.** any acceptance by the **City** or any failure to do so;
- 5.26.1.6.** any review and approval of a Shop Drawing or Sample submittal or the issuance of a notice of acceptance by the **Design Professional**;
- 5.26.1.7.** any inspection, test, or approval by others; or
- 5.26.1.8.** any correction of defective Work by the **City**.

5.27. Indemnification; and Covenant Not To Sue.

5.27.1. To the fullest extent permitted by law, the **Contractor** shall assume the defense of, indemnify and hold harmless the **City**, the **Design Professional**, the **Design Professional's** consultants, and agents and employees of any of them, from and against claims, suits, causes of action, demands, liabilities, damages, losses, and expenses, including, but not limited, to attorneys' fees, arising out of or resulting from performance of the Work, provided that such claim, damage, loss, or expense is attributable to bodily injury, sickness, disease, or death, or to injury to or destruction of tangible property (other than the Work itself) including loss of use resulting therefrom, caused in whole or in part by alleged negligent acts or omissions of the **Contractor**, a Subcontractor, anyone directly or indirectly employed by them, or anyone for whose acts they may be liable, regardless of whether or not such claim, damage, loss, or expense is caused in part by a party indemnified hereunder. Such obligation shall not be construed to negate, abridge, or reduce other rights or obligations of indemnity which would otherwise exist as to a party or person described in this paragraph.

5.27.2. In claims against any person or entity indemnified under the foregoing paragraph by an employee of the **Contractor**, a Subcontractor, anyone directly or indirectly employed by them or anyone for whose acts they may be liable, the indemnification obligation under the foregoing paragraph shall not be limited by a limitation on the amount or type of damages, compensation or benefits payable by or for the **Contractor** or a Subcontractor under Workers' Compensation laws, disability benefit acts or other employee benefit acts.

5.27.3. The obligations of the **Contractor** in this Article shall not extend to the liability of the **Design Professional**, the **Design Professional's** consultants, and agents or employees of any of them arising out of (1) the preparation of maps, Plans, opinions, reports, surveys, Change Orders, designs, or Specifications, or (2) directions or instructions given by the **Design Professional**, the **Design Professional's** consultants and agents or employees of any of them, provided such instructions or directions are the primary cause of the injury or damage.

5.27.4. The **Contractor**, or any successor, assign, or subrogee of the **Contractor** agrees not to bring any civil suit,

action, or other proceeding in law, equity or arbitration against the **Design Professional**, or the officers, employees, agents, or consultants of the **Design Professional**, for the enforcement of any action which the **Contractor** may have arising out of or in any manner connected with the Work. The **Contractor** shall assure that this covenant not to sue is contained in all subcontracts and sub-subcontracts of every tier and shall assure its enforcement. The **Design Professional**, its officers, employees, agents, and consultants are intended third-party beneficiaries of this covenant not to sue, and are entitled to enforce this covenant in law or equity.

5.28. Survival of Obligations.

5.28.1 All representations, indemnifications, warranties, and guarantees made in, required by or given in accordance with the Contract Documents, as well as all continuing obligations indicated in the Contract Documents, will survive final payment, completion and acceptance of the Work and termination or completion of the Contract.

**ARTICLE 6
SUBCONTRACTORS**

6.1 Use of Subcontractors.

The **Contractor** shall use the Subcontractors named in the **Contractor's** Bid. The Contractor shall not award any work to any Subcontractor without prior written approval of the CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT). The Contractor shall not award any work to any subcontractor without prior written approval of CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT), which approval will not be given until the Contractor submits a written approval statement concerning the proposed award to the subcontractor, which statement shall contain such information as CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) may require. All subcontracts subject to Mass. General laws, Chapter 149, Sections 44A-J, shall comply with the filed sub-bid requirements of that statute. The Contractor shall be as fully responsible for the acts and omissions of his subcontractors, and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him. The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind subcontractors to the Contractor by the Terms of the General Conditions and other contract documents insofar as applicable to the work of subcontractors and to give the Contractor the same power as regards terminating any subcontract that CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) may exercise over the Contractor under any provision of the contract documents. Nothing contained in this contract shall create any contractual relation between any subcontractor and CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT).

6.2 Substitution of Subcontractors.

6.2.1 The **Contractor** shall not substitute another Subcontractor therefor without notice to the **City** and the **City's** prior written consent of such substitution.

6.3 Names of Subcontractors.

6.3.1 Upon execution of the Contract with the **City**, the **Contractor** shall provide in writing to the **City**, through the **Design Professional**, the names, addresses, telephone numbers, and fax numbers of all persons proposed for each principal portion of the Work.

6.4. Objections to Subcontractors.

6.4.1 The **Contractor** shall not use any Subcontractor against whom the **City** has a reasonable objection. The **Contractor** shall not be required to contract with any person or entity against whom it has a reasonable objection.

6.5. Form of the Subcontract.

6.5.1 All Work performed by a Subcontractor shall be through an appropriate subcontract. The form of subcontract shall be submitted to the **City** for its approval, which shall not be unreasonably withheld or delayed.

6.6. Content of the Subcontract.

6.6.1. In addition to all statutorily mandated provisions and provisions required elsewhere in the Contract Documents, each subcontract shall expressly provide that:

6.6.1.1. Each subcontract agreement for a portion of the Work is assigned by the **Contractor** to the **City** provided that:

6.6.1.1.1. the assignment is effective only after termination of the Contract by the **City** or the

Contractor and only for those subcontract agreements which the **City** accepts by notifying the Subcontractor in writing; and

6.6.1.1.2. the assignment is subject to the prior rights of the surety, if any, obligated under bond relating to the Contract.

6.6.1.2. Each Subcontractor is bound by the requirements of the Contract Documents for the express benefit of the **City**.

6.6.1.3. Each Subcontractor shall assume toward the **Contractor** all the obligations that the **Contractor** assumes toward the **City** and the **Design Professional**, unless otherwise provided by law.

ARTICLE 7

PERFORMANCE AND PAYMENT BONDS

7.1. Form of Bonds.

7.1.1 The performance and labor and material or payment bonds shall be in the form required by the **City**, copies of which are included in the Project Manual. The **City** reserves the right to reject any bond that does not conform to the **City's** requirements.

7.2. Furnished by the Contractor. (*Reference: M.G.L. c. 30, §39M(c);, M.G.L. c. 149, §29).*

7.2.1 The **Contractor** shall furnish a performance bond and a labor and materials or payment bond, each with a surety company qualified to do business under the laws of the Commonwealth and satisfactory to the **City** and each in the sum of the Contract Sum, the premiums for which are to be paid by the **Contractor** and are included in the Contract Sum. The bonds shall remain in effect until final payment is made. The sum of the performance bond shall increase each time the Contract Sum is increased as a result of a Change Order.

7.3. Submission to the City.

7.3.1 The **Contractor** must submit the performance and a labor and materials or payment bonds to the **City** upon the **Contractor's** execution of the Agreement.

ARTICLE 8

INSURANCE REQUIREMENTS

8.1 Insurance Certificates.

8.1.1 Prior to starting work on this project, the contractor shall deposit with the **City**, certificates from insurers clearly stating that the required insurance policies have been issued to the **Contractor** and will remain in effect during the time period required to complete this contract. ACCORD forms will not be accepted. The certificates must be in a form satisfactory to the **City**. The insurance shall include all major divisions of coverage, and shall be on a comprehensive general basis including: Premises and Operations (including X-C-U), Owners and Contractors Protective, Products and Completed Operations, Owned, Non-owned or Hired and/or Leased Motor Vehicles. Such insurance shall be written for not less than any limits of liability, required by law or the following limits, whichever are greater.

8.2 Minimum Coverages. The **Contractor** shall possess and maintain throughout the contract period/project, insurance in the kinds and amounts as stated in the Specification included in Appendix C of this Agreement. The **Contractor** may purchase and maintain excess liability insurance in the in the umbrella form in order to satisfy the limits of liability required for the insurance to be purchased and maintained in accordance with the required requirements set forth above (in addition to the umbrella limits required). Evidence of such excess liability shall be delivered to the **City** in the form of a certificate and the certificate indicating the policy numbers and limits of liability of all underlying insurance.

8.3 Additional Insured. The **City** shall be named as an additional insured on each certificate, and the certificate must have the endorsement of the insurance agency.

8.4 Notice. Each certificate shall contain a notation that the insurer will give 30 days notice to the **City** prior to cancellation, change or non-renewal of policy.

8.5 Carrier Rating. Insurance carriers MUST have an A.M. Best rating of "A" or better.

8.6 Material Breach. Failure of the contractor to provide and continue in force such insurance shall be deemed a material breach of contract and shall operate as immediate termination thereof.

ARTICLE 9
TESTS AND INSPECTIONS

9.1. Access.

9.1.1 The **City**, the **Design Professional**, and all other persons designated by the **City** shall have access to the Work at reasonable times for observing, inspecting, and testing. The **Contractor** shall provide them with proper and safe conditions for such access and advise them of the **Contractor's** site safety procedures and programs so that they may comply therewith as applicable.

9.2. Tests and Inspections.

9.2.1. The **Contractor** shall give the **Design Professional** timely notice of readiness of the Work for all required inspections, tests, or approvals and shall cooperate with inspection and testing personnel to facilitate required inspections or tests.

9.2.2. Unless otherwise provided, the **Contractor** shall make arrangements for such tests, inspections, and approvals with an independent testing laboratory or entity acceptable to the **City**, or with the appropriate public authority and shall bear all related costs of tests, inspections, and approvals. If the laws or regulations of any public body having jurisdiction require any Work or part thereof specifically to be inspected, tested, or approved by an employee or other representative of such public body, the **Contractor** shall assume full responsibility for arranging and obtaining such inspections, tests, or approvals, pay all costs in connection therewith and furnish the **Design Professional** with the required certificates of inspection, testing, or approval.

9.2.3. The **Contractor** shall be responsible for arranging and obtaining and shall pay all costs in connection with any inspections, tests, or approvals required for the **Design Professional's** acceptance of materials or equipment to be incorporated into the Work, or of materials, mix designs, or equipment submitted for approval prior to the **Contractor's** purchase thereof for incorporation into the Work.

9.2.4. If any Work that is to be inspected, tested, or approved is covered by the **Contractor**, Subcontractor, or Sub-subcontractor without the prior written consent of the **Design Professional**, it must be uncovered for observation, inspection, testing, or approval, if requested by the **Design Professional**. The **Contractor** must recover the Work at its own expense.

9.2.5. The **Contractor** shall not be relieved of obligations to perform the Work in accordance with the Contract Documents either by activities or duties of the **Design Professional** in the **Design Professional's** administration of the Contract or by tests, inspections, or approvals required or performed by persons other than the **Contractor**.

ARTICLE 10 UNCOVERING AND CORRECTING WORK

10.1. Uncovering Work.

10.1.1. If a portion of the Work is covered contrary to the **Design Professional's** request or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the **Design Professional**, be uncovered for the **Design Professional's** observation and be replaced, both at the **Contractor's** expense and without change in the Contract Time.

10.1.2. If a portion of the Work has been covered which the **Design Professional** has not specifically requested to observe prior to its being covered, the **Design Professional** may request to see such Work, and it shall be uncovered by the **Contractor**. If it is found that such Work is in accordance with the Contract Documents, costs of uncovering and replacing shall, by appropriate Change Order, be charged to the **City**. If it is found that such Work is defective or not in accordance with the Contract Documents, the **Contractor** shall pay all claims, costs, losses, and damages caused by, arising out of or resulting from such uncovering, exposure, observation, inspection, and testing and of satisfactory replacement of reconstruction (including, but not limited to, all costs of repair or replacement of work of others); and the **City** shall be entitled to an appropriate decrease in the Contract Sum. The **City** may take such decrease by reducing the then current application for payment accordingly or subsequent applications, if necessary, until the decrease is paid in full.

10.2. Correcting Work.

10.2.1. The **Contractor** shall promptly correct Work rejected by the **Design Professional** or failing to conform to the requirements of the Contract Documents, whether observed before or after Substantial Completion and whether or not fabricated, installed, or completed. The **Contractor** shall bear all costs of correcting such rejected Work including additional testing and inspections and compensation for the **Design Professional's** services and expenses made necessary thereby and any cost, loss, or damages to the **City** resulting from such failure or defect.

10.2.2. If, within one (1) year after the date of Substantial Completion of the Work or designated portion thereof, or after the date for commencement of warranties established in Article 15, or by terms of an applicable special warranty required by the Contract Documents, any of the Work is found to be not in accordance with the requirements of the Contract Documents, the **Contractor** shall correct it promptly after receipt of written notice from the **City** to do so, unless the **City** has previously given the **Contractor** a written acceptance of such condition. This period of one (1) year shall be extended with respect to portions of Work first performed after Substantial Completion by the period of time between Substantial Completion and the actual performance of the Work. This obligation to correct under this paragraph shall survive acceptance of the Work under the Contract and termination of the Contract. The **City** shall give such notice promptly after discovery of the condition.

10.2.3. The **Contractor** shall correct, remove, or replace portions of the Work that are not in accordance with the requirements of the Contract Documents and are neither corrected by the **Contractor** nor accepted by the **City**.

10.2.4. If the **Contractor** fails within a reasonable time to correct nonconforming Work, or to remove and replace rejected Work, or fails to perform the Work in accordance with the Contract Documents, the **City** may correct it in accordance with the provisions herein. If the **Contractor** does not proceed with correction, removal, or replacement of such nonconforming Work within seven (7) days from the date of written notice from the **Design Professional**, the **City** may correct it and store any salvageable materials or equipment at the **Contractor's** expense. If the **Contractor** does not pay costs of any such removal and storage within ten (10) days after written notice, the **City** may upon ten (10) additional days' written notice sell such materials and equipment at auction or at private sale and shall account for the proceeds thereof, after deducting costs and damages that should have been borne by the **Contractor**, including compensation for the **Design Professional's** services and expenses made necessary thereby. If such proceeds of sale do not cover all the costs that the **Contractor** should have born, the Contract Sum shall be reduced by the deficiency. If payments then or thereafter due the **Contractor** are not sufficient to cover such amount, the **Contractor** shall pay the difference to the **City**.

10.2.5. The **Contractor** shall bear the cost of correcting destroyed or damaged construction, whether completed or partially completed, of the **City** or separate contractors caused by the **Contractor's** correction or removal of Work which is not in accordance with the requirements of the Contract Documents.

10.2.6. Nothing contained in this paragraph shall be construed to establish a period of limitation with respect to other obligations that the **Contractor** might have under the Contract Documents. Establishment of the time period of one (1) year as described in the above paragraph related only to the specific obligation of the **Contractor** to correct the Work and has no relationship to the time within which the obligation to comply with the Contract Documents may be sought to be enforced nor to the time within which proceedings may be commenced to establish the **Contractor's** liability with respect to the **Contractor's** obligations other than specifically to correct the Work.

10.3. Acceptance of Nonconforming Work.

10.3.1 If, instead of requiring correction or removal and replacement of defective or nonconforming Work, the **City** prefers to accept Work which is not in accordance with the requirements of the Contract Documents, the **City** may do so instead of requiring its removal and correction, in which case the **Contractor** shall pay all claims, costs, losses, and damages attributable to the **City's** evaluation of and determination to accept such defective or non-conforming Work. The Contract Sum will be reduced as appropriate. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 11 CHANGES IN THE WORK

11.1. In General.

11.1.1. The Contract Sum constitutes the total compensation (subject to authorized adjustments) payable to the **Contractor** for performing the Work. All duties, responsibilities and obligations assigned to or undertaken by the **Contractor** shall be at the **Contractor's** expense without any change in the Contract Sum.

11.1.2. Without invalidating the Contract and without notice to any surety, the **City** may, at any time or from time to time, order additions to, deletions from, or revisions in the Work. Such additions, deletions, or revisions will be authorized by a Change Order, a Modification or a **Construction Change Directive**. Upon receipt of any such document, the **Contractor** shall promptly proceed with the Work involved that will be performed under the applicable conditions of the Contract Documents (except as otherwise specifically provided).

11.1.3. The **Contractor** shall not be entitled to an increase in the Contract Sum or an extension of the Contract Time with respect to any Work performed that is not required by the Contract Documents as amended, modified, or supplemented, except as otherwise provided herein.

11.2. Change Orders.

11.2.1. (*Reference: M.G.L. c. 30, §39I*). The **Contractor** shall perform all the Work required by this Contract in conformity with the Plans and Specifications contained herein. No willful and substantial deviation from said Plans and Specifications shall be made unless authorized in writing by the **City** and the **Design Professional** in charge of the Work who is duly authorized by the **City** to approve such deviations. In order to avoid delays in the prosecution of the Work required by such Contract, such deviation from the Plans or Specifications may be authorized by a written order of the **City** or the **Design Professional** so authorized to approve such deviation. Within thirty (30) days thereafter, such written order shall be confirmed by a certificate of the **City**, using AIA Document G701 (or its equivalent), stating: (1) If such deviation involves any substitution or elimination of materials, fixtures or equipment, the reasons why such materials, fixtures, or equipment were included in the first instance and the reasons for substitution or elimination, and, if the deviation is of any other nature, the reasons for such deviation, giving justification therefor; (2) that the specified deviation does not materially injure the Project as a whole; (3) that either the work substituted for the Work specified is of the same cost and quality, or that an equitable adjustment has been agreed upon between the **City** and the **Contractor** and the amount in dollars of said adjustment; and (4) that the

deviation is in the best interest of the **City**. The Change Order shall also indicate whether or not the date of substantial completion has been extended. The equitable adjustment in price shall be determined by the unit prices, if any, in the General Contractor's bid; otherwise, it shall be a number which is agreed to by both parties as a fair adjustment and which can be itemized and substantiated to the reasonable satisfaction of the Contracting Authority. Where increases and decreases to the Contract Sum are included in one Change Order, the negotiated allowance for overhead and profit shall be calculated on the basis of the net increase, if any.

11.3. Construction Change Directive.

11.3.1. A **Construction Change Directive** shall be used in the absence of total agreement on the terms of a Change Order.

11.3.2. Upon request of the **City** or the **Design Professional**, the **Contractor** shall without cost to the **City** submit to the **Design Professional** in such form as the **Design Professional** may require, an accurate written estimate of the cost of any proposed extra work or change. The estimate shall indicate the quantity and unit cost of each item of materials, and the number of hours of work and hourly rate for each class of labor, as well as the description and amounts of all other costs chargeable under the terms of this Article. Unit labor costs for the installation of each item of materials shall be shown if required by the **Design Professional**. If required by the **Design Professional**, in order to establish the exact cost of new Work added or of previously required Work omitted, the **Contractor** shall obtain and furnish to the **Design Professional** bona fide proposals from recognized Suppliers for furnishing any material included in such Work. Such estimates shall be furnished promptly so as to occasion no delay in the Work, and shall be furnished at the **Contractor's** expense.

11.3.3. The **Contractor** shall state in the estimate any extension of time required for the completion of the Work if the change or extra Work is ordered. The **Contractor** shall document, through a critical path analysis, or some other clearly delineated explanation, how the proposed change affects other aspects of the Work, and why it would require an extension of time. The **Contractor** shall promptly revise and resubmit such estimate if the **Design Professional** determines that it is not in compliance with the requirements of this Article, or that it contains errors of fact or mathematical errors.

11.3.4. If the **Construction Change Directive** provides for an adjustment to the Contract Sum, the adjustment shall be based on one of the following methods, as selected by the **City**, selection of which does not require the consent of the **Contractor**:

11.3.4.1. by unit prices stated in the Contract Documents or otherwise mutually agreed upon; or

11.3.4.2. by Cost and Percentages estimated by the **Contractor** as provided herein and accepted by the **City**, whereupon the **Contractor's** estimate shall become a fixed price which shall not be changed by any variation in the actual cost of executing the Work covered by the change; or

11.3.4.3. by actual Cost determined after the Work covered by the change is completed, plus Percentage; or

11.3.4.4. by submission to arbitration or a court, which shall determine the fair value of the Work covered by the change.

11.3.5. "Cost" shall mean the estimated or actual net increase or decrease in cost to the **Contractor**, Subcontractor, or Sub-subcontractor for performing the Work covered by the change, including actual payments for materials, equipment rentals, expendable items, wages, and associated benefits to the workers and to supervisors employed full time at the Site, insurance, bonds, and other provable direct costs, but not including any administrative, accounting or expediting costs, or other indirect or overhead costs, or any wages or benefits of supervisory personnel not assigned full time to the Site, or any amount for profit or fee to the **Contractor**, Subcontractor, or Sub-subcontractor.

11.3.6. "Percentage" shall mean an allowance to be added to or subtracted from the Cost in lieu of overhead and profit and of any other expense that is not included in the Cost of the Work covered by the change, as defined above. Percentage for a Sub-subcontractor shall be 8% of any net increase or decrease of Cost of any Work performed by the Sub-subcontractor's own forces plus 4% of any net increase or decrease in Cost of any Work performed for the Sub-subcontractor by lower tier Sub-subcontractors. Percentage for a Subcontractor shall be 12% of any net increase or decrease of Cost of any Work performed by the Subcontractor's own forces plus 4% of the Cost of Work performed by Sub-subcontractors. Percentage for the **Contractor** shall be 15% of any net increase or decrease of Cost of any Work performed by the **Contractor's** own forces plus 5% of any net increase or decrease in the Cost for all other Work covered by the change. When the **Contractor** is also performing Work as a Subcontractor or Sub-subcontractor, the **Contractor** shall only be entitled to a total of no more than 15% of any net increase or decrease of Cost of any Work.

11.3.7. When in the reasonable judgment of the **Design Professional** a series of **Construction Change Directives** or Change Orders effect a single change, Percentage shall be calculated on the cumulative net increase or decrease in Cost, if any.

11.3.8. If unit prices are stated in the Contract Documents or are subsequently agreed upon, and if quantities originally contemplated are so changed in a Proposed Change Order or **Construction Change Directive** that the application of such unit prices to quantities of Work proposed will cause substantial inequity to the **City** or the **Contractor**, the applicable unit prices shall be equitably adjusted. Wherever the estimated quantities of work to be done and materials to be furnished under this

contract are shown in any of the documents including the proposal, they are given for use in comparing bids and the right is especially reserved herein otherwise specifically limited, to increase or diminish them as may be deemed reasonably necessary or desirable by CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) to complete the work contemplated by the contract, nor shall any such increases or diminution shall in no way violate this contract, nor shall any such increase or diminution give cause for claims or liability for damages.

11.3.9. If the **City** elects to determine the Cost of the Work as provided in method (11.3.4.1) using unit prices stated in the Contract Documents or subsequently agreed upon, the unit prices shall be subject to the prior paragraph. Notwithstanding the inclusion of unit prices in the Contract Documents, it shall be the **City's** option to require the Cost of any given change to be determined by one of the other methods stated in 11.3.4. If the **City** elected to determine the Cost of the change by unit prices and the nature of the work is such that its extent cannot readily be measured after the completion of such work or any subsequent Work, the **Contractor** shall keep daily records, available at all times to the **Design Professional** for inspection, of the actual quantities of such Work put in place, and delivery receipts or other adequate evidence, acceptable to the **Design Professional**, indicating the quantities of materials delivered to the Site for use in such unit price Work, and distinguishing such from other similar material delivered for use in Work include in the base Contract Sum. If so required by the **Design Professional**, materials for use in unit price Work shall be stored apart from all other materials on the Project.

11.3.10. If the **City** elects to determine the Cost of the Work as provided in methods 11.3.4.3. or 11.3.4.4. or if the method of determining the Cost has not been established before the Work is begun, the **Contractor** shall keep detailed daily records of labor and material costs applicable to the Work.

11.3.11. Upon receipt of a **Construction Change Directive**, the **Contractor** shall promptly proceed with the change in the Work involved and advise the **Design Professional** in writing of the **Contractor's** agreement or disagreement with the method, if any, provided in the **Construction Change Directive** for determining the proposed adjustment in the Contract Time.

11.3.12. A **Construction Change Directive** signed by the **Contractor** indicates the agreement of the **Contractor** therewith, including adjustment in the Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

11.3.13. If the **Design Professional** and the **Contractor** do not agree with the adjustment in the Contract Time or the method for determining it, the adjustment or the method shall be referred to the **Design Professional** for determination.

11.4. Minor Changes in the Work.

11.4.1. The **Design Professional** has the authority to order minor changes in the Work. "Minor changes" as used in this paragraph mean changes which are so insignificant as to not affect the Contract Sum or the Contract Time and which are not inconsistent with the intent of the Contract Documents. Any minor change shall be committed to a written order which shall be binding on both the **City** and the **Contractor** and which shall be promptly carried out by the **Contractor**.

11.5. Certificate of Appropriations. (*Reference: M.G.L. c. 44, §31C;*). This Contract shall not be deemed to have been made until the **City's** auditor has certified thereon that an appropriation in the amount of this Contract is available therefor and that an officer or agent of the **City** has been authorized to execute said Contract and approve all requisitions and change orders. No order to the **Contractor** for a change in or addition to the Work, whether in the form of a drawing, plan, detail or any other written instruction, unless it is an order which the **Contractor** is willing to perform without any increase to the Contract price, shall be deemed to be given until the auditor has certified thereon that an appropriation in the amount of such order is available therefore; but such certificate shall not be construed as an admission by the **City** of its liability to pay for such work. The certificate of the auditor that an appropriation in the amount of this Contract or in the amount of such order is available shall bar any defense by the **City** on the grounds of insufficient appropriation.

ARTICLE 12 CHANGE IN THE CONTRACT TIME

12.1. Date of Commencement.

12.1.1 The date of commencement of the Work is the date established in the Notice to Proceed. The date shall not be postponed by the failure to act of the **Contractor** or persons or entities for whom the **Contractor** is responsible.

12.2. Progress and Completion.

12.2.1. Time is of the essence; all time limits stated in the Contract Documents are of the essence of the Contract. By executing the Agreement, the **Contractor** confirms that the Contract Time is a reasonable period for performing the Work.

12.2.2. The **Contractor** shall proceed expeditiously with adequate forces and shall achieve Substantial Completion within the Contract Time.

12.2.3. At least ten (10) working days after the Notice to Proceed or twenty (20) working days before the first application for payment, the **Contractor** shall submit to the **Design Professional** a progress schedule showing for each class of

Work included in the schedule of values, the percentage of completion to be obtained and the total dollar value of Work to be completed as of the first of each month until Substantial Completion. All calculations shall be on the basis of Work in place, but may include, at the **Design Professional's** discretion, the value of materials delivered but not in place.

12.2.4. The progress schedule shall be based on an orderly progression of the Work, allowing adequate time for each operation (including adequate time for submission and review of submittals), and leading to a reasonable certainty of Substantial Completion by the date established in the Agreement. The progress schedule will be reviewed by the **Design Professional** for compliance with the requirements of this Article and will be accepted by the **Design Professional** or returned to the **Contractor** for revision and resubmittal. Unless specifically required by law, no payment under this Contract shall be due until the progress schedule has been approved by the **Design Professional**. The **Design Professional's** review of the progress schedule shall not impose any duty on the **Design Professional** or the **City** with respect to the timing, planning, scheduling, or execution of the Work. In particular, if the **Contractor** proposes a progress schedule indicating a date of Substantial Completion which is earlier than the Contract Time, the **Contractor** shall not be entitled to additional payment or compensation of any kind if, for any reason, the full Contract Time is required to achieve Substantial Completion of the Work.

12.2.5. If in any Application for Payment, the total value of the completed Work in place, as certified by the **Design Professional**, is less than 90% of the total value of the Work in place estimated in the progress schedule, the **City** may, at the **City's** option, require the **Contractor** to accelerate the progress of the Work without cost to the **City** by increasing the workforce or hours or Work or by other reasonable means approved by the **Design Professional**.

12.2.6. If each of three successive applications, as certified by the **Design Professional**, indicate that the actual Work completed is less than 90% of the values estimated in the progress schedule to be completed by the respective dates, the **City** may at the **City's** option, treat the **Contractor's** delinquency as a default justifying the action permitted under Article 18.

12.2.7. If the **Design Professional** has determined that the **Contractor** should be permitted to extend the time for completion as provided below, the calendar dates in the progress schedule shall be adjusted accordingly to retain their same relationship to the adjusted date of Substantial Completion, and the dollar value of the Work to be completed as of the first of each month shall be adjusted pro rata.

12.2.8. If the **Contractor** fails to submit any application for payment in any month, the **Design Professional** shall, for the purpose of this evaluation of progress, certify separately to the actual value of the Work in place completed as of the first of the month to the best of the **Design Professional's** knowledge.

12.2.9. Nothing herein shall limit the **City's** right to liquidated or other damages for delays by the **Contractor** or to any other remedy which the **City** may be entitled or may possess under other provisions of the Contract Documents or by law.

12.3. Delays and Extensions of Time.

12.3.1. If the **Contractor** is delayed at any time in the progress of the Work by an act or neglect of the **City** or the **Design Professional**, or of an employee of either, or of a separate contractor employed by the **City**, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in deliveries, unavoidable casualties, or other causes (except weather) beyond the **Contractor's** control, or by delay authorized by the **City**, or by other causes which the **Design Professional** determines may justify delay, then the Contract Time shall be extended by Change Order or **Construction Change** Directive for such reasonable time as the **Design Professional** may determine.

12.3.2. Claims relating to time shall be made in accordance with applicable provisions of Article 16.

12.3.3. No claim for extension of time shall be allowed on account of failure of the **Design Professional** to furnish Plans, Specifications or instructions or to return Shop Drawings or Samples until fifteen (15) days after receipt by the **Design Professional** by registered or certified mail of written demand for such instructions, Plans, Specifications, or Samples, and then not unless such claim is reasonable.

12.3.4. No extensions of time shall be granted because of seasonal or abnormal variations in temperature, humidity or precipitation, which conditions shall be wholly at the risk of the **Contractor**, whether occurring within the time originally scheduled for completion or within the period of any extension granted. There shall be no increase in the Contract Sum on account of any additional costs of operations or conditions resulting therefrom.

12.3.5. The **Contractor** hereby agrees that the **Contractor** shall have no claim for damages of any kind against the **City** or the **Design Professional** on account of any delay in the commencement of the Work and/or any hindrance, delay, or suspension of any portion of the Work, whether such delay is caused by the **City**, the **Design Professional**, or otherwise, except as and to the extent expressly provided under M.G.L. c. 30, §39O, in the case of written orders by the **City**. The **Contractor** acknowledges that the **Contractor's** sole remedy for any such delay and/or suspension will be an extension of time as provided in this Article.

12.3.6. (*Reference: M.G.L. c. 30, §39O*);. (a) The **City** may order the **Contractor** in writing to suspend, delay, or interrupt all or any part of the Work for such period of time as it may determine to be appropriate for the convenience of the **City**, provided however that if there is a suspension, delay, or interruption for fifteen (15) days or more due to a failure of the **City** to act within the time specified in this Contract, the **City** shall make an adjustment in the

Contract prices for any increase in the cost of performance of this Contract under this provision for any suspension, delay, interruption, or failure to act to the extent that such is due to any cause for which this Contract provides for an equitable adjustment of the Contract price under any other Contract provisions.

(b) The **Contractor** must submit the amount of a claim under provision (a) to the **City** in writing as soon as practicable after the end of the suspension, delay, interruption, or failure to act and, in any event, not later than the date of final payment under this Contract and, except for costs due to a suspension order, the **City** shall not approve any costs in the claim incurred more than twenty (20) days before the **Contractor** notified the **City** in writing of the act or a failure to act involved in the Claim.

In the event a suspension, delay, interruption, or failure to act of the **City** increases the cost of performance to any Subcontractor, that Subcontractor shall have the same rights against the **Contractor** for payment for an increase in the cost of its performance as provisions (a) and (b) give the **Contractor** against the **City**, but nothing in provisions (a) and (b) shall in any way change, modify, or alter any other rights which the **Contractor** or the Subcontractor may have against each other.

12.4. Liquidated Damages.

12.4.1. If the **Contractor** shall fail to achieve Substantial Completion within the Contract Time, it shall be liable to pay the **City** the daily amount specified in the Agreement, not as a penalty, but as a fixed and agreed upon damages for breach of contract. The said amount is fixed and agreed upon because of the difficulty of ascertaining the **City's** actual damages. It is mutually understood that the said amount is a reasonable approximation or estimate thereof as of the date of the Agreement. The **City** may elect to withhold said amount from periodic or final payments due to the **Contractor**, in addition to retainage and other back charges.

12.5. Changes in the Contract Time.

12.5.1. In Writing. The Contract Time may only be changed by a Change Order or a Modification. Any claim for an adjustment of the Contract Time shall be based on a written notice delivered to the party making the claim to the other party and to the **Design Professional** promptly (but in no event later than seven (7) days) after the occurrence of the event giving rise to the claim and stating the general nature of the claim. Notice of the extent of the claim with supporting data shall be delivered within thirty (30) days after such occurrence and shall be accompanied by the claimant's written statement that the adjustment claimed is the entire adjustment to which the claimant has reason to believe it is entitled as a result of the occurrence of said event. All claims for adjustment in the Contract Time shall be determined by the **Design Professional** in accordance with Article 16. No claim for an adjustment in the Contract Time will be valid if not submitted in accordance with the requirements of this paragraph.

12.5.2. Early Completion. The Contract Time shall not be changed due to a delay in the **Contractor's** early completion date.

ARTICLE 13 PAYMENTS

13.1. Schedule of Values.

13.1.1. The **Contractor** shall submit to the **Design Professional** a schedule of values which shall subdivide the Work into its component parts and shall include quantities, direct craft labor worker hours, labor cost and material/equipment cost. Labor cost shall include an appropriate amount of construction equipment costs, supplemental costs, administrative expenses, contingencies, and profit. The **Contractor** shall prepare the schedule of values in such form and supported by such data to substantiate its accuracy as the **Design Professional** may require and shall be revised if later found by the **Design Professional** to be inaccurate. This schedule, unless objected to by the **Design Professional**, shall be used as a basis for reviewing the **Contractor's** applications for payment.

13.2. Content and Submission of Applications for Payment.

13.2.1. At least ten (10) days before the date established for each progress payment, the **Contractor** shall submit to the **Design Professional** six (6) copies of an itemized application for payment for Work completed in accordance with the schedule of values. Such application shall be in a form or format established or approved by the **Design Professional** and shall be supported by documentation substantiating the **Contractor's** right to payment.

13.2.2. When **Construction Change** Directives have set forth an adjustment to the Contract Sum but have not yet been included in Change Orders, the value established by the **City** may be included in the application.

13.2.3. Applications covering Work of Subcontractors or Suppliers shall not include requests for payments of amounts the **Contractor** does not intend to pay to a Subcontractor or Supplier because of a dispute or other reason. The **Contractor** shall not be paid for any Work performed by a Subcontractor unless and until the **City** receives for that Subcontractor a certificate of insurance that conforms to the requirements of the Contract Documents .

13.2.4. Unless otherwise provided in the Contract Documents, payments shall be made on account of materials and

equipment delivered and suitably stored at the Site for subsequent incorporation in the Work. If approved in advance by the **City**, payment may similarly be made for materials and equipment suitably stored off the Site at a location agreed upon in writing. Payment for materials and equipment stored on or off the Site shall be conditioned upon the application for payment being accompanied by a bill of sale, an invoice, or other documentation warranting that the **City** has received the materials and equipment free and clear of all liens, claims, security interests, or encumbrances, hereinafter collectively referred to as "liens," and evidence that the materials and equipment are covered by appropriate insurance and other arrangements to protect the **City's** interest therein.

13.2.5. Each application for payment or periodic estimate requesting payment shall be accompanied by, at the **City's** option, a certificate from each Subcontractor stating that the Subcontractor has been paid all amounts due the Subcontractor on the basis of the previous periodic payment to the **Contractor**, or else stating the amount not so paid and the reason for the discrepancy. In the event of any such discrepancy, the **Contractor** shall furnish the **Contractor's** own written explanation to the **City** through the **Design Professional**. Such waiver or certificate shall be in a form acceptable to the **City**.

13.3. False Applications for Payment.

13.3.1. (*Reference: M.G.L. c. 266, §§67B*). Any person who makes or presents to any claim upon or against any employee or department of the **City**, knowing such claim to be false, fictitious, or fraudulent shall be punished by a fine or not more than ten thousand dollars (\$10,000) or by imprisonment in the state prison for not more than five (5) years, or in the house of correction for not more than two and one-half years, or both.

13.4. Review of Applications for Payment.

13.4.1. The **Design Professional** shall review each application for payment and will reject any application that (1) is not accompanied by the required documentation or (2) contains errors, mathematical or otherwise.

13.4.2. Within five (5) business days after receipt of an application for payment, the **Design Professional** will either (1) return the application to the **Contractor** with a written explanation as to why it was rejected or (2) issue to the **City** a certificate for payment, with a copy to the **Contractor**, for such amount as the **Design Professional** determines is properly due. In the event an application is returned to the **Contractor**, the date of receipt of the application shall be the date of receipt of the corrected application.

13.4.3. The **Design Professional** or the **City** may make changes to any application submitted by the **Contractor**.

13.4.4. By recommending any payment, the **Design Professional** will not thereby be deemed to have represented that: (1) exhaustive or continuous on-site inspections have been made to check the quality or the quantity of the Work beyond the responsibilities specifically assigned to the **Design Professional** in the Contract Documents or (2) that there may not be other matters or issues between the parties that might entitle the **Contractor** to be paid additionally by the **City** or entitle the **City** to withhold payment to the **Contractor**. The **Design Professional's** approval of the application for payment and the accompanying documentation shall indicate that to the best of the **Design Professional's** knowledge, information, and belief, the Work has progressed to the point indicated by the **Contractor**, and that the quality of the Work is in accordance with the Contract Documents, subject to an evaluation of the Work as a functioning whole prior to or upon Substantial Completion, the results of any subsequent tests specified in the Contract Documents, final determination of quantities and classifications for unit price work and any other qualifications so stated.

13.4.5. The **Design Professional's** recommendation of any payment shall not mean that the **Design Professional** is responsible for the **Contractor's** means, methods, techniques, sequences, or procedures of construction, or the safety precautions and programs incident thereto, or for any failure of the **Contractor** to comply with laws and regulations applicable to the furnishing or performance of Work, or for any failure of the **Contractor** to perform or furnish Work in accordance with the Contract Documents.

13.4.6. No certificate given or payment made shall be evidence of the performance of this Contract, either wholly or in part and no payment, whether made upon the final certificate or otherwise, shall be construed as an acceptance of defective work or materials.

13.5. Decisions to Withhold Certification.

13.5.1. The **Design Professional** may refuse to recommend the whole or any part of any payment if, in the **Design Professional's** opinion, it would be incorrect to make the representations to the **City** referred to above.

13.5.2. If the **Contractor** and the **Design Professional** cannot agree on a revised amount, the **Design Professional** will promptly approve a certificate for payment for the amount for which the **Design Professional** is able to make such representations to the **City**. The **Design Professional** may also decide not to certify payment or, because of subsequently discovered evidence or subsequent observations, may nullify the whole or a part of a certificate for payment previously issued, to such extent as may be necessary in the **Design Professional's** opinion to protect the **City** from loss because of:

13.5.2.1. defective Work not remedied;

- 13.5.2.2. third party claims filed or reasonable evidence indicating probable filing of such claims;
 - 13.5.2.3. failure of the **Contractor** to make payments properly to Subcontractors or for labor, materials or equipment;
 - 13.5.2.4. reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
 - 13.5.2.5. damage to the **City** or another contractor;
 - 13.5.2.6. reasonable evidence that the Work will not be completed within the Contract Time, and that retainage currently held by the **City** would not be adequate to cover actual or liquidated damage for the anticipated delay;
 - 13.5.2.7. persistent failure to carry out the Work in accordance with the Contract Documents; or
 - 13.5.2.8. failure of mechanical trade or electrical trade subcontractors to comply with mandatory requirements for maintaining record drawings. The **Contractor** shall check record drawings each month. Written confirmation that the record drawings are current will be required by the **Design Professional** before approval of the **Contractor's** monthly payment requisition.
- 13.5.3. When the above reasons for withholding certification are removed, certification will be made for amounts previously withheld.

13.6. Progress Payments.

13.6.1. After the **Design Professional** has issued a certificate for payment, the **City** shall make payment in the manner and within the time provided in the Contract Documents.

13.6.2. (*Reference: M.G.L. c. 30, §39G, 39K;*). In the case of Contracts for the construction, reconstruction, alteration, remodeling, repair or demolition of any public building when the amount is more than two thousand dollars, the following paragraph applies: Within fifteen days (30 days in the case of the commonwealth, including local housing authorities) after receipt from the contractor, at the place designated by the awarding authority if such a place is so designated, of a periodic estimate requesting payment of the amount due for the preceding month, the awarding authority will make a periodic payment to the contractor for the work performed during the preceding month and for the materials not incorporated in the work but delivered and suitably stored at the site (or at some location agreed upon in writing) to which the contractor has title or to which a subcontractor has title and has authorized the contractor to transfer title to the awarding authority, upon certification by the contractor that he is the lawful owner and that the materials are free from all encumbrances, but less (1) a retention based on its estimate of the fair value of its claims against the contractor and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, and less (3) a retention not exceeding five per cent of the approved amount of the periodic payment. After the receipt of a periodic estimate requesting final payment and within sixty-five days after (a) the contractor fully completes the work or substantially completes the work so that the value of the work remaining to be done is, in the estimate of the awarding authority, less than one per cent of the original contract price, or (b) the contractor substantially completes the work and the awarding authority takes possession for occupancy, whichever occurs first, the awarding authority shall pay the contractor the entire balance due on the contract less (1) a retention based on its estimate of the fair value of its claims against the contractor and of the cost of completing the incomplete and unsatisfactory items of work and less (2) a retention for direct payments to subcontractors based on demands for same in accordance with the provisions of section thirty-nine F, or based on the record of payments by the contractor to the subcontractors under this contract if such record of payment indicates that the contractor has not paid subcontractors as provided in section thirty-nine F. If the awarding authority fails to make payment as herein provided, there shall be added to each such payment daily interest at the rate of three percentage points above the rediscount rate than charged by the Federal Reserve Bank of Boston commencing on the first day after said payment is due and continuing until the payment is delivered or mailed to the contractor; provided, that no interest shall be due, in any event, on the amount due on a periodic estimate for final payment until fifteen days (twenty-four days in the case of the commonwealth) after receipt of such a periodic estimate from the contractor, at the place designated by the awarding authority if such a place is so designated. The contractor agrees to pay to each subcontractor a portion of any such interest paid in accordance with the amount due each subcontractor.

For all other construction contracts, progress payments are governed by chapter 30, §39G, and as follows: The **City** shall pay the amount due pursuant to any periodic, Substantial Completion or final estimate within thirty-five (35) days after receipt of written acceptance for such estimate from the **Contractor**. In the case of periodic payments, the **City** may deduct from its payment a retention based on its estimate of the fair value of its claims against the **Contractor**, a retention for direct payments to Subcontractors based on demands for same in accordance with M.G.L. c. 30, §39F; and a retention to secure satisfactory performance of the contractual work, not exceeding five percent (5%) of the approved amount of any periodic payment, and the same right to retention shall apply to bonded Subcontractors entitled to direct payment under M.G.L. c. 30, §39F; provided, that a five percent (5%) value of all items that are planted in the ground shall be deducted from the periodic payments until final acceptance.

Retainage prior to Substantial Completion. In all construction contracts, the City may hold back a retainage of up to five percent of each progress payment to ensure satisfactory completion of the work. In addition, the City may withhold any amounts in dispute, including disputed change orders and direct payments owed to subcontractors pursuant to Chapter 30, §39F of the General Laws.

Payment upon Substantial Completion. In the case of contracts for construction, reconstruction, alteration, repair, remodeling, or demolition of a public building, where the amount is more than \$2,000, Chapter 30, Section 39K, of the General Laws governs payment upon substantial completion. For all other contracts, Chapter 30, Section 39F of the General Laws governs payment upon substantial completion.

13.6.3. No periodic, Substantial Completion or final estimate or acceptance or payment thereof shall bar the **Contractor** from reserving all rights to dispute the quantity and amount of, or the failure of the **City** to approve a quantity and amount of, all or part of any Work item or extra Work item.

13.7. Final Payment.

13.7.1. After final inspection and after the **Contractor** has completed all the required corrections to the satisfaction of the **Design Professional** and the **City** and delivered in accordance with the Contract Documents all maintenance and operating instructions, schedules, guarantees, bonds, certificates, or other evidence of insurance, certificates of inspection, marked-up record documents, and all other documents called for in the Contract Documents, as well as any surplus materials requested by the **City**, the **Contractor** may make an application for final payment as provided below.

13.7.2. (*Reference:* M.G.L. c. 30, §39G;). Within thirty (30) days after receipt by the **City** of a notice from the **Contractor** stating that all of the Work required by the Contract has been completed, the **City** shall prepare and forthwith send to the **Contractor** for acceptance a final estimate for the quantity and price of the Work done and all retainage on the Work less all payments made to date, unless the **City's** inspection shows that Work required by the Contract remains incomplete or unsatisfactory, or that documentation required by the Contract has not been completed.

13.7.3. The making and acceptance of final payment will constitute a waiver of all claims by the **Contractor** against the **City** other than those previously made in writing and still unsettled.

13.7.4. Interest. If the City fails to pay the Contractor within the time periods mandated by statute, the City shall pay interest to the Contractor in accordance with Chapter 30, Sections 39G and 39K, whichever is applicable.

13.8. Payments to Subcontractors.

13.8.1. Neither the **City** nor the **Design Professional** shall have an obligation to pay or see to the payment of money to a Subcontractor, Sub-subcontractor, or Supplier except as may otherwise be required by law.

13.8.2. (*Reference:* M.G.L. c. 30, §39F;) (1) Every contract awarded pursuant to sections forty-four A to L, inclusive, of chapter one hundred and forty-nine shall contain the following subparagraphs (a) through (i) and every contract awarded pursuant to section thirty-nine M of chapter thirty shall contain the following subparagraphs (a) through (h) and in each case those subparagraphs shall be binding between the general contractor and each subcontractor.

(a) Forthwith after the **Contractor** receives payment on account of a periodic estimate, the **Contractor** shall pay to each Subcontractor the amount paid for the labor performed and the materials furnished by that Subcontractor, less any amount specified in any court proceedings barring such payment and also less any amount claimed due from the Subcontractor by the **Contractor**.

(b) Not later than the sixty-fifth day after each Subcontractor substantially completes its Work in accordance with the Plans and Specifications, the entire balance due under the subcontract, less amounts retained by the **City** as the estimated cost of completing the incomplete and unsatisfactory items of Work, shall be due the Subcontractor; and the **City** shall pay that amount to the **Contractor**. The **Contractor** shall forthwith pay to the Subcontractor the full amount received from the **City** less any amount specified in any court proceeding barring such payment and also less any amount claimed due from the Subcontractor by the **Contractor**.

(c) Each payment made by the **City** to the **Contractor** pursuant to paragraphs (a) and (b) of M.G.L. c. 30, §39F(1);, for the labor performed and the materials furnished by a Subcontractor shall be made to the **Contractor** for the account of that Subcontractor; and the **City** shall take reasonable steps to compel the **Contractor** to make each such payment to each such Subcontractor. If the **City** has received a demand for direct payment from a Subcontractor for any amount which has already been included in a payment to the **Contractor** or which is to be include in a payment to the **Contractor** for payment to the Subcontractor as provided in paragraphs (a) and (b) of M.G.L. c. 30, §39F(1), the **City** shall act upon the demand as provided in M.G.L. c. 30, §39F.

(d) If, within seventy (70) days after the Subcontractor has substantially completed the subcontract Work, the Subcontractor has not received from the **Contractor** the balance due under the subcontract including any amount due for extra labor and materials furnished to the **Contractor**, less any amount retained by the **City** as the estimated cost of completing the incomplete and unsatisfactory items of Work, the Subcontractor may demand direct payment of that

balance from the **City**. The demand shall be by a sworn statement delivered to or sent by certified mail to the **City**, and a copy shall be delivered to or sent by certified mail to the **Contractor** at the same time. The demand shall contain a detailed breakdown of the balance due under the subcontract and also a statement of the status of completion of the subcontract Work. [The demand letter shall indicate the certified mail number assigned by the postal service or the date of delivery to the **Contractor**.] Any demand made after substantial completion of the subcontract Work shall be valid even if delivered or mailed prior to the seventieth day after the Subcontractor has substantially completed the subcontract Work. Within ten (10) days after the Subcontractor has delivered or so mailed the demand to the **City** and delivered or so mailed a copy to the **Contractor**, the **Contractor** may reply to the demand. The reply shall be by a sworn statement delivered to or sent by certified mail to the **City**, and a copy shall be delivered to or sent by certified mail to the Subcontractor at the same time. The reply shall contain a detailed breakdown of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the **Contractor** and of the amount due for each claim made by the **Contractor** against the Subcontractor.

(e) Within fifteen (15) days after receipt of the demand by the **City**, but in no event prior to the seventieth day after substantial completion of the subcontract Work, the **City** shall make direct payment to the Subcontractor of the balance due under the subcontract, including any amount due for extra labor and materials furnished to the **Contractor**, less any amount (i) retained by the **City** as the estimated cost of completing the incomplete or unsatisfactory items of Work, (ii) specified in any court proceedings barring such payment, or (iii) disputed by the **Contractor** in the sworn reply; provided that the **City** shall not deduct from a direct payment any amount as provided in part (iii) if the reply is not sworn to or for which the sworn reply does not contain the detailed breakdown required by the previous paragraph. The **City** shall make further direct payments to the Subcontractor forthwith after the removal of the basis for deductions from direct payments made as provided in parts (i) and (ii) of this paragraph.

(f) The **City** shall forthwith deposit the amount deducted from a direct payment as provided in part (iii) of the previous paragraph in an interest-bearing joint account in the names of the **Contractor** and the Subcontractor in a bank in Massachusetts selected by the **City** or agreed upon by the **Contractor** and the Subcontractor and shall notify the **Contractor** and the Subcontractor of the date of the deposit and the bank receiving the deposit. The bank shall pay the amount in the account, including accrued interest, as provided in an agreement between the **Contractor** and the Subcontractor or as determined by decree of a court of competent jurisdiction.

(g) All direct payments and all deductions from demands for direct payments deposited in an interest-bearing account or accounts in a bank pursuant to the previous paragraph shall be made out of amounts payable to the **Contractor** at the time of receipt of a demand for direct payment from a Subcontractor and out of amounts which later become payable to the **Contractor** and in the order of receipt of such demands from Subcontractors. All direct payments shall discharge the obligation of the **City** to the **Contractor** to the extent of such payment.

(h) The **City** shall deduct from payments to a **Contractor** amounts that, together with the deposits in interest-bearing accounts pursuant to paragraph (f), are sufficient to satisfy all unpaid balances of demands for direct payment received from Subcontractors. All such amounts shall be earmarked for such direct payments, and the Subcontractors shall have a right in such deductions prior to any claims against such amounts by creditors of the **Contractor**.

(i) If the Subcontractor does not receive payment as provided in paragraph (a) or if the **Contractor** does not submit a periodic estimate for the value of the labor or materials performed or furnished by the Subcontractor and the Subcontractor does not receive payment for same when due less the deductions provided for in paragraph (a), the Subcontractor may demand direct payment by following the procedure in paragraph (d) and the **Contractor** may file a sworn reply as provided in that same paragraph. A demand made after the first day of the month following that for which the Subcontractor performed or furnished the labor and materials for which the Subcontractor seeks payment shall be valid even if delivered or mailed prior to the time payment was due on a periodic estimate from the **Contractor**. Thereafter the **City** shall proceed as provided in paragraphs (e), (f), (g), and (h). "Subcontractor" as used in this paragraph (1)(i) shall mean a person approved by the **City** in writing as a person performing labor or both performing labor and furnishing materials pursuant to a contract with the **Contractor**.

(2) Any assignment by a Subcontractor of the rights under this section to a surety company furnishing a bond under the provisions of M.G.L. c. 149, §29; shall be invalid. The assignment and subrogation rights of the surety to amounts included in a demand for direct payment which are in the possession of the **City** or which are on deposit pursuant to paragraph (g) shall be subordinate to the rights of all Subcontractors who are entitled to be paid under this section and who have not been paid in full.

(3) A **Contractor** or a Subcontractor shall enforce a claim to any portion of the amount of a demand for direct payment deposited as provided in herein by a petition in equity in the superior court against the other and the bank shall not be a necessary party. A Subcontractor shall enforce a claim for direct payment or a right to require a deposit as provided in paragraph (f) by a petition in equity in the superior court against the **City** and the **Contractor** shall not be a

necessary party. Upon motion of any party the court shall advance for speedy trial any petition filed as provided in this paragraph. M.G.L. c. 231, §§59 and 59B shall apply to such petitions. The court shall enter an interlocutory decree upon which execution shall issue for any part of a claim found due pursuant to §§59 and 59B and, upon motion of any party, shall advance for speedy trial the petition to collect the remainder of the claim. Any party aggrieved by such interlocutory decree shall have the right to appeal therefrom as from a final decree. The court shall not consolidate for trial the petition of any Subcontractor with the petition of one or more Subcontractors or the same general contract unless the court finds that a substantial portion of the evidence of the same events during the course of construction (other than the fact that the claims sought to be consolidated arise under the same general contract) is applicable to the petitions sought to be consolidated and that such consolidation will present unnecessary duplication of evidence. A decree in any such proceeding shall not include interest on the disputed amount deposited in excess of the interest earned for the period of any such deposit. No person except a Subcontractor filing a demand for direct payment for which no funds due the **Contractor** are available for direct payment shall have a right to file a petition in court of equity against the **City** claiming a demand for direct payment is premature, and such Subcontractor must file the petition before the **City** has made a direct payment to the Subcontractor and has made a deposit of the disputed portion as provided in part (iii) of paragraph (e) and in paragraph (f).

(4) In any petition to collect any claim for which a Subcontractor has filed a demand for direct payment the court shall, upon motion of the **Contractor**, reduce by the amount of any deposit of a disputed amount by the **City** as provided in part (iii) of paragraph (e) and in paragraph (f) any amount held under a trustee writ or pursuant to a restraining order or injunction.

ARTICLE 14 SUBSTANTIAL COMPLETION

14.1. Substantial Completion.

14.1.1. Upon Substantial Completion of the Work, the **Contractor** shall present in writing to the **City** its certification that the Work has been substantially completed and include in its certification (1) a list of items to be completed or corrected, (2) all special warranties required by the Contract Documents, endorsed by the **Contractor** and in a form reasonably acceptable to the **Design Professional** and (3) the permits and certificates referred to in 13.7.1., or elsewhere. The failure to include any item on the list mentioned in the preceding sentence does not alter the responsibility of the **Contractor** to complete all Work in accordance with the Contract Documents. When the **Design Professional** on the basis of an inspection determines that the Work or designed portion thereof is substantially complete and the other conditions have been met, the **Design Professional** will then prepare a certificate of Substantial Completion which shall establish the date of Substantial Completion, shall state the responsibilities of the **City** and the **Contractor** for security, maintenance, heat, utilities, damage to the Work, and insurance, and shall fix the time within which the **Contractor** shall complete the items listed therein. The certificate of Substantial Completion shall be submitted to the **City** and the **Contractor** for their written acceptance of the responsibilities assigned to them in such certificate.

14.1.2. Within twenty-one (21) days after receipt of the certification from the **Contractor**, the **City** shall present to the **Contractor** either a written declaration that the Work has been substantially completed or an itemized list of incomplete or unsatisfactory work items required by the Contract sufficient to demonstrate that the Work has not been substantially completed. The **City** may include with such list a notice setting forth a reasonable time within which the **Contractor** must achieve Substantial Completion of the Work. If the **City** fails to respond, by presentation of a written declaration or itemized list as aforesaid, to the **Contractor's** certification within the twenty-one (21) day period, the **Contractor's** certification shall take effect as the **City's** declaration that the Work has been substantially completed.

14.2. Partial Use or Occupancy of the Premises.

14.2.1. The **City** may occupy or use any completed or partially completed portion of the Work at any stage. Such partial occupancy or use may begin whether or not the portion is substantially complete, provided that the respective responsibilities of the **City** and the **Contractor** with respect to payments, retainage, if any, security, maintenance, heat, utilities, damage to the Work, insurance, correction of the Work, and warranties shall be established by agreement of the **City** and the **Contractor** or, absent such agreement, shall be determined by the **Design Professional** subject to the right of either party to contest such determination as provided in Article 16.

14.2.2. Immediately prior to such partial occupancy or use, the **City**, the **Contractor** and the **Design Professional** shall jointly inspect the area to be occupied or portion of the Work to be used in order to determine and record the condition of the Work.

14.2.3. Unless otherwise agreed upon, partial occupancy or use of a portion or portions of the Work shall not constitute acceptance of Work not complying with the requirements of the Contract Documents.

14.2.4. (*Reference:* M.G.L. c. 30, §39G;). Within sixty-five (65) days after the effective date of a declaration of

Substantial Completion, the **City** shall prepare and send to the **Contractor** for acceptance a Substantial Completion estimate for the quantity and price of the Work done and all but one percent (1%) retainage on that Work, including the quantity, price and all but one percent (1%) retainage for the undisputed part of each item and extra work item in dispute, but excluding the disputed part thereof, less the estimated cost of completing all incomplete and unsatisfactory items and less the total periodic payments made to date for the Work. The **City** shall also deduct from the Substantial Completion estimate an amount equal to the sum of all demands for direct payment filed by Subcontractors and not yet paid to Subcontractors or deposited in joint accounts pursuant to M.G.L. c. 30, §39F.

14.2.5. (*Reference:* M.G.L. c. 30, §39G). If the **City** fails to prepare and send to the **Contractor** any Substantial Completion estimate required by the provisions herein on or before the date specified, the **City** shall pay to the **Contractor** interest on the amount which would have been due to the **Contractor** pursuant to such Substantial Completion estimate at the rate of three (3) percentage points above the rediscount rate then charged by the Federal Reserve Bank of Boston from such date to the date on which the **City** sends that Substantial Completion estimate to the **Contractor** for acceptance or to the date of payment therefor, whichever occurs first. The **City** shall include the amount of such interest in the Substantial Completion estimate.

14.2.6. (*Reference:* M.G.L. c. 30, §39G). Within fifteen (15) days after the effective date of the declaration of Substantial Completion, the **City** shall send to the **Contractor** by certified mail, return receipt requested, a complete list of all incomplete or unsatisfactory items, and unless delayed by causes beyond its control, the **Contractor** shall complete all such items within forty-five (45) days after the receipt of such list or before the date for final payment and acceptance, whichever is later. If the **Contractor** fails to complete such Work within such time, the **City** may, subsequent to seven (7) days' written notice to the **Contractor** by certified mail, return receipt requested, terminate the Contract and complete the incomplete or unsatisfactory items and charge the cost of same to the **Contractor**.

14.3. Final Inspection.

14.3.1. Upon written notice from the **Contractor** that the entire Work or an agreed portion thereof is complete, the **Design Professional** will make a final inspection with the **City** and the **Contractor** and will notify the **Contractor** in writing of all particulars which this inspection reveals that the Work is incomplete or defective. The **Contractor** shall immediately take such measures as are necessary to complete such Work or remedy such deficiencies.

ARTICLE 15 GUARANTEES AND WARRANTIES

15.1. In General.

15.1.1. All guarantees and warranties specifically called for by the Specifications shall expressly run to the benefit of the **City**. Neither the final certificate of payment nor any provision in the Contract Documents, nor partial or entire occupancy of the premises by the City shall constitute any acceptance of work not done in accordance with the Contract Documents or relieve the Contractor of liability in respect to any express warranties or responsibility for faulty materials or workmanship. The Contractor shall remedy any defects in the work and pay for any damage to other work resulting therefrom, which shall appear within a period of one year from the date of final acceptance of the work unless a longer period is specified. CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) will give notice of observed defects with reasonable promptness.

15.2. Warranties.

15.2.1. Warranties required by the Contract Documents shall commence on the date of Substantial Completion of the Work or designated portion thereof, unless otherwise provided in the certificate of Substantial Completion.

15.2.2. The **Contractor** warrants that the materials and equipment furnished under the Contract will be new and of recent manufacture unless otherwise specified, and that all Work will be of good quality, free from faults and defects, and in conformance with the Contract Documents. Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. The **Contractor's** warranty excludes remedy for damage or defect caused by abuse, Modifications not executed by the **Contractor**, improper or insufficient maintenance, improper operation, or normal wear and tear under normal usage. If required by the **Design Professional**, the **Contractor** shall furnish satisfactory evidence as to the kind and quality of material and equipment.

15.2.3. The **Contractor** warrants that title to all Work covered by an application for payment will pass to the **City** either by incorporation in the construction or upon the receipt of payment by the **Contractor**, whichever occurs first, free and clear of all liens. The **Contractor** further agrees that the submission of any application for payment shall conclusively be deemed to waive all liens with respect to said Work to which the **Contractor** may then be entitled, provided that such waiver of the lien rights shall not waive the **Contractor's** right to payment for such Work.

15.2.4. The **Contractor** warrants and guarantees that title to all Work, materials, and equipment covered by any

application for payment, whether incorporated in the Project or not, will pass to the **City** no later than the time of payment free and clear of all liens.

15.2.5. No materials or supplies for the Work shall be purchased by the **Contractor** or Subcontractor subject to any chattel mortgage or under a conditional sale contract or other agreement by which an interest is retained by the seller. The **Contractor** warrants that it has good title to all materials and supplies used by it in the Work, free from all liens.

15.2.6. The **Contractor** shall indemnify and hold the **City** harmless from all claims growing out of the lawful demands of Subcontractors, laborers, workers, mechanics, material persons, and furnishers of machinery and parts thereof, equipment, power tools, and all supplies, including commissary, incurred in the furtherance of the performance of this Contract. The **Contractor** shall at the **City's** request, furnish satisfactory evidence that all obligations of the nature hereinabove designated have been paid, discharged, or waived. If the **Contractor** fails to do so, then the **City** may, after having served written notice on the **Contractor** either pay unpaid bills, of which the **City** has written notice, direct, or withhold from the **Contractor's** unpaid compensation a sum of money deemed reasonably sufficient to pay any and all such lawful claims until satisfactory evidence is furnished that all liabilities have been fully discharged whereupon payment to the **Contractor** shall be resumed, in accordance with the terms of this Contract, but in no event shall the provisions of this sentence be construed to impose any obligations on the **City** to either the **Contractor** or its surety. In paying any unpaid bills of the **Contractor**, the **City** shall be deemed the agent of the **Contractor** and any payment so made by the **City** shall be considered as payment made under the Contract by the **City** to the **Contractor** and the **City** shall not be liable to the **Contractor** for any such payment made in good faith.

15.3. Extended Warranties and Guarantees.

15.3.1. Any defective Work that is either corrected or replaced will be warranted and guaranteed for a period of three (3) years from the date of such correction or replacement.

ARTICLE 16 CLAIMS

16.1. In General.

16.1.1. Written Notice. A Claim must be made by written notice to the other party.

16.1.2. Content of Notice. The notice must include all written supporting data.

16.1.3. Burden of Proof. The party making the Claim must substantiate the Claim.

16.2. Time Limits on Claims.

16.2.1. Unless otherwise provided, all Claims must be made within twenty-one (21) days after the occurrence of the event giving rise to such Claim or within twenty-one (21) days after the claimant first recognizes the condition giving rise to the Claim, whichever is later. Any change or addition to a previously made Claim shall be made by a written notice within the twenty-one-day period in order to be valid.

16.3. Continuing Contract Performance.

16.3.1. Pending final resolution of a Claim including arbitration, unless otherwise agreed in writing, the **Contractor** shall proceed diligently with performance of the Contract and the **City** shall continue to make payments in accordance with the Contract Documents.

16.4. Types of Claims.

16.4.1. Claims for Differing Subsurface or Latent Physical Conditions. (*Reference: M.G.L. c. 30, §39N;*). If, during the progress of the Work, the **Contractor** or the **City** discovers that the actual subsurface or latent physical conditions encountered at the Site differ substantially or materially from those shown on the Plans or indicated in the Contract Documents, either the **Contractor** or the **City** may request an equitable adjustment in the Contract Sum of the Contract applying to Work affected by the differing Site conditions. A request for such an adjustment shall be in writing and shall be delivered by the party making such claim to the other party as soon as possible after such conditions are discovered. Upon receipt of such a claim from a **Contractor**, or upon its own initiative, the **City** shall make an investigation of such physical conditions, and if they differ substantially or materially from those shown on the Plans or indicated in the Contract Documents or from those ordinarily encountered and generally recognized as inherent in Work of the character provided for in the Plans and Contract Documents and are of such a nature as to cause an increase or decrease in the cost of performance of the Work or a change in the construction methods required for the performance of the Work which results in an increase or decrease in the cost of the Work, the **City** shall make an equitable adjustment in the Contract Sum and the Contract shall be modified in writing accordingly.

16.4.2. Claims for Additional Cost. If the **Contractor** claims that any acts or omissions of the **City** or the **Design Professional**, including any instructions or orders, whether oral, written, by drawings, or otherwise, involve extra cost or time, and the **Contractor** has not received a written acknowledgment by the **City** or the **Design Professional** that extra payment will

be made or time extended on account thereof, the **Contractor** shall promptly so notify the **Design Professional** in writing of such Claim and shall proceed with the Work relating to such Claim and all rights of both parties with respect to such Claim shall be deemed to have been reserved. No Claim by the **Contractor** on account of such acts, omissions, instructions, or orders shall be valid unless the **Contractor** has so notified the **Design Professional** before proceeding.

16.4.2.1. Under no circumstances shall a Claim be made for additional cost where adverse weather conditions are the basis for the Claim.

16.4.3. Claims for Additional Time. If the **Contractor** wishes to make a Claim for an increase in the Contract Time, written notice as provided herein shall be given. The **Contractor** shall have the burden of demonstrating the effect of the claimed delay on the Contract Time and shall furnish the **Design Professional** with such documentation relating thereto as the **Design Professional** may reasonably require. Under no circumstances shall the **Contractor** make a Claim for an increase in the Contract Time due to a change in the **Contractor's** early completion date. If the increase in the Contract Time extends beyond the Contract Time established by the **City**, only the time that so extends beyond the Contract Time shall be reviewed and considered. In the case of a continuing delay, only one Claim is necessary.

16.4.3.1. Under no circumstances shall a Claim be made for additional time where adverse weather conditions are the basis for the Claim.

16.4.4. Claims for Injury to Person or Damage to Property. Should either party to the Contract suffer injury to person or damage to property because of any error, omission, or act of the other party or of any of the other party's employees or agents or others for whose acts the other party is legally liable, a Claim will be made in writing to the other party within twenty-one (21) days of the occurrence of the act giving rise to the injury or damage.

16.5. Review of Claims.

16.5.1. Initial Referral. All Claims, the bases of which arise prior to final payment or the earlier termination of the Contract, shall be referred initially to the **Design Professional** for action as provided herein.

16.5.2. Time Period and Action. The **Design Professional** shall review Claims and shall do one of the following within fourteen (14) days of receipt of the Claim:

16.5.2.1. defer any action with respect to all or any part of a Claim for the purpose of requesting and receiving additional information from either party;

16.5.2.2. decline in writing to render a decision for any reason which it deems appropriate (including, but not limited to, the fact that the Claim involves allegations of fault on the part of the **Design Professional**); or

16.5.2.3. render a decision on all or a part of the Claim.

16.5.3. If the **Design Professional** requests additional information, the **Design Professional** shall take action with respect to the Claim no later than fourteen (14) days after receipt of the additional information. The **Design Professional** shall notify the parties in writing of its disposition of such Claim. If the **Design Professional** renders a decision or declines to render a decision, either party may proceed in accordance with paragraph 16.7.

16.6. Decisions.

16.6.1. Decisions by the City or the Design Professional. (*Reference: M.G.L. c. 30, §39P*). In every case in which this Contract requires the **City**, any official, or its **Design Professional** to make a decision on interpretation of the Specifications, approval of equipment, material or any other approval, or progress of the Work, the decision shall be made promptly and, in any event, no later than fourteen (14) days after the written submission for decision; but if such decision requires extended investigation and study, the **City**, the official, or the **Design Professional** shall, within fourteen (14) days after the receipt of the submission, give the party making the submission written notice of the reasons why the decision cannot be made within the thirty-day period and the date by which the decision will be made.

16.6.2. When Decision of the Design Professional is Final and Binding. The decision of the **Design Professional** shall be final and binding on the parties, unless a party files suit or a demand for arbitration within thirty (30) days after the date of the decision.

16.6.3. When Decision of the Design Professional is Not Final and Binding. (*Reference: M.G.L. c. 30, §39J*). Notwithstanding any contrary provision of this Contract, no decision by the **City** or by the **Design Professional** on a dispute, whether of fact or of law, arising under said Contract shall be final or conclusive if such decision is made in bad faith, fraudulently, capriciously, arbitrarily, is unsupported by substantial evidence, or is based upon error of law.

16.6.4. Resolved Claims. If a Claim is resolved, the **Design Professional** shall obtain or prepare the appropriate documentation and provide the **City** and the **Contractor** with a copy of same.

16.7. Arbitration.

16.7.1. Controversies and Claims Subject to Arbitration. Any controversy or Claim arising out of or related to the

Contract, or the breach thereof, shall be settled by arbitration in accordance with the Construction Industry Arbitration Rules of the American Arbitration Association, and judgment upon the award rendered by the arbitrator or arbitrators may be entered in any court having jurisdiction thereof, except controversies or Claims relating to aesthetic effect, subject to the provisions of paragraph 16.7.7. In any such arbitration in which the amount stated in the demand is \$100,000 or less, the American Arbitration Association shall appoint a single arbitrator in accordance with such Rules, who shall be a lawyer. In any such arbitration in which the amount stated in the demand is in excess of \$100,000, the demand shall include the name of an arbitrator appointed by the claimant. The respondent shall appoint a second arbitrator and shall notify the claimant in writing of such appointment within thirty (30) days of receipt of the demand, failing which the matter shall be decided by the arbitrator named in the claimant's demand. Within thirty (30) days after the claimant's receipt of notice of the appointment of the second arbitrator, the two arbitrators shall appoint a neutral arbitrator and shall notify the parties in writing of such appointment, failing which either party may apply to the American Arbitration Association to appoint such neutral arbitrator. If such neutral arbitrator is appointed by the American Arbitration Association, he or she shall be a lawyer.

16.7.2. Rules for Arbitration. If the neutral arbitrator is appointed by the American Arbitration Association, the said Association shall administer the arbitration and its Construction Industry Arbitration Rules shall govern all aspects of the proceeding including the enforcement of any award. If the neutral arbitrator is not appointed by the American Arbitration Association, then the panel of arbitrators shall act as the administrator of the arbitration but the Construction Industry Arbitration Rules of the Association shall nonetheless govern all aspects of the proceeding, including the enforcement of any award, provided however that the arbitration panel shall have all of the powers and duties conferred on the Association pursuant to said rules. In addition, the following rules shall govern the selection of arbitrators and the proceedings:

16.7.2.1. Neither party may appoint as arbitrator an employee or an owner of that party, nor the parent, spouse, or child of an employee or owner of that party.

16.7.2.2. After the neutral arbitrator has been appointed, neither party may engage in *ex parte* communication with any arbitrator.

16.7.3. When Arbitration May Be Demanded. Demand for arbitration of any Claim, the basis of which arises prior to final payment or the earlier termination of the Contract may not be made before the earlier of (1) the date on which the **Design Professional** has rendered a written decision on the Claim or has notified the parties in writing that such decision will not be rendered or (2) forty-five (45) days following receipt by the **Design Professional** of a written request for a decision sent by registered or certified mail to both the **Design Professional** and the other party to this Contract.

16.7.3.1. In no event shall a demand for arbitration be made after the date when the institution of legal or equitable proceedings based on such Claim would be barred by the applicable statute of limitations.

16.7.4. Limitation on Consolidation or Joinder. No arbitration arising out of or relating to the Contract Documents shall include, by consolidation or joinder or in any other manner, the **Design Professional**, the **Design Professional's** employees or consultants, except by written consent containing specific reference to the Contract and signed by the **Design Professional**, the **City**, the **Contractor**, and any other person or entity sought to be joined. No arbitration shall include, by consolidation or joinder or in any other manner, parties other than the **City**, the **Contractor**, a separate contractor, and other persons substantially involved in a common question of fact or law whose presence is required if complete relief is to be accorded in arbitration. No person or entity other than the **City**, the **Contractor**, or a separate contractor shall be included as an original third party or additional third party to an arbitration whose interest or responsibility is insubstantial. Consent to arbitration involving an additional person or entity shall not constitute consent to arbitration of a dispute not described therein or with a person or entity so named or described herein. The foregoing agreement to arbitrate and other agreements to arbitrate with an additional person or entity duly consented to by parties to the Contract shall be specifically enforceable under applicable law in any court having jurisdiction thereof.

16.7.5. Claims and Timely Assertion of Claims. A party who files a notice of demand for arbitration must assert in the demand all Claims then known to that party on which arbitration is permitted to be demanded. When a party fails to include a Claim through oversight, inadvertence, or excusable neglect, or when a Claim has matured or been acquired subsequently, the arbitrator or arbitrators may permit amendment.

16.7.6. Award Final. The award rendered by the arbitrator or arbitrators shall be final, and judgment may be entered upon it in accordance with applicable law in any court having jurisdiction thereof.

16.7.7. The City's Reservation of Rights. Notwithstanding any provision contained in this Article 16 or elsewhere in the Contract Documents, the **City** reserves the following rights in connection with Claims between the **City** and the **Contractor**, which rights may be exercised by the **City** unilaterally, in the **City's** sole discretion, and without the consent of the **Contractor**:

16.7.7.1. the right to institute legal action against the **Contractor** in any court of competent jurisdiction in lieu of demanding arbitration, in which case the dispute or disputes which are the subject of such action shall be decided by such court, and not by arbitration;

16.7.7.2. the right to obtain from any court of competent jurisdiction a stay of any arbitration instituted by the **Contractor**, provided that the application for such stay is made before the appointment of the neutral arbitrator in

such arbitration, in which case the dispute or disputes which are the subject of such arbitration shall be decided by such court and not by arbitration;

16.7.7.3. the right to require the **Contractor** to join as a party in any arbitration between the **City** and the **Design Professional** relating to the Project, in which case the **Contractor** agrees to be bound by the decision of the arbitrator or arbitrators in such arbitration.

16.7.8. In case the **City** elects to proceed in accordance with 16.7.7.1. or 16.7.7.2. above, the word “litigation” shall be deemed to replace the word “arbitration” wherever the latter word appears in the Contract Documents.

ARTICLE 17 EMERGENCIES

17.1. In an emergency affecting the health and safety of persons or property, the **Contractor** shall act to prevent threatened damage, injury, or loss.

17.2. In emergencies affecting the health, safety, or protection of persons, the Work or property at the Site or adjacent thereto, the **Contractor**, without special instruction or authorization from the **City** or the **Design Professional**, is obligated to act to prevent threatened damage, injury, or loss. The **Contractor** shall give the **Design Professional** prompt written notice if the **Contractor** believes that any significant changes in the Work or variations from the Contract Documents have been caused thereby. If the **Design Professional** determines that a change in the Contract Documents is required because of the action taken by the **Contractor** in response to such an emergency, a **Construction Change Directive** or **Change Order** will be issued to document the consequences of such action.

ARTICLE 18 TERMINATION OR SUSPENSION OF THE CONTRACT

18.1. Suspension by the City.

18.1.1. At any time and without cause, the **City** may suspend the Work or any portion thereof for a period of not more than ninety (90) days by notice in writing to the **Contractor** and the **Design Professional** that will fix the date on which Work will be resumed. The **Contractor** shall resume Work on the date so fixed. The **Contractor** shall be allowed an adjustment in the Contract Sum or an extension of the Contract Time, or both, directly attributable to any such suspension if the **Contractor** makes an approved Claim therefor, provided, however, that if there is a suspension, delay or interruption for fifteen days or more or due to a failure of the Awarding Authority to act within the time specified in this contract, the Awarding Authority shall make an adjustment in the contract price for any increase in the cost of performance of this contract but shall not include any profit to the General Contractor on such increase; and provided further, that the Awarding Authority shall not make any adjustment in the contract price under this provision for any suspension, delay, interruption, or failure to act to the extent that such is due to any cause for which this contract provides for an equitable adjustment of the contract price under any other contract provisions. The General Contractor must submit the amount of a claim under provision (1) to the Awarding Authority in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and, except for costs due to a suspension order, the Awarding Authority shall not approve any costs in the claim incurred more than twenty days before the General Contractor notified the Awarding Authority in writing of the act or failure to act involved in the claim. The General Contractor must submit the amount of a claim under provision (1) to the Awarding Authority in writing as soon as practicable after the end of the suspension, delay, interruption or failure to act and, in any event, not later than the date of final payment under this contract and, except for costs due to a suspension order, the Awarding Authority shall not approve any costs in the claim incurred more than twenty days before the General Contractor notified the Awarding Authority in writing of the act or failure to act involved in the claim.

18.1.1.1 Notwithstanding the above, if the City is required to suspend the work as a result of a request from the Office of the Attorney General in connection with a bid protest or an injunction, the Contractor shall not have a claim for damages, but the City shall extend the date of substantial completion for a period of time commensurate with the period of the suspension, and the liquidated damages clause shall not take effect until the extended date of substantial completion. If any of the following occurrences causes a delay in the work, the Contractor shall immediately notify CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) in writing. If, upon investigation, the City finds that the delay is excusable, the City shall extend the date of substantial completion for a period of time commensurate with the period of the excusable delay, and the liquidated damages clause shall not take effect until the extended date of substantial completion: (1) any acts of the Government, including controls or restrictions upon or requisitioning of materials, equipment, tools, or labor by reason of war, National Defense, or any other national emergency; (2) delays which are caused by the City and which are not occasioned by the Contractor’s failure to supply CONTRACTING DEPARTMENT (AS STATED ON THE FIRST PAGE OF THE AGREEMENT) or its design professional with progress schedules, documents, samples, and the like, in a timely manner; (3) causes not reasonably foreseeable by the parties to this Contract, which are beyond the reasonable

control of the Contractor, such as blizzards, floods, hurricanes, tornadoes, and strikes; (4) any delay of any subcontractor resulting from paragraphs (1), (2), or (3).

18.1.2. If the Work is defective, if the **Contractor** fails to provide a sufficient number of skilled workers or suitable materials or equipment, or if the **Contractor** defaults or neglects to carry out the Work in accordance with the Contract Documents and fails within a seven-day period after receipt of written notice from the **City** to begin and prosecute correction of such default or neglect with diligence and promptness, the **City** may correct such deficiencies, without prejudice to other remedies the **City** may have. In such case, an appropriate **Construction Change** Directive shall be issued deducting from payments then or thereafter due to the **Contractor** the cost of correcting such deficiencies including compensation for the **Design Professional's** additional services and expenses made necessary by such default, neglect, or failure and any and all direct, indirect, or consequential costs associated with the order to stop the Work. If such payments then or thereafter due the **Contractor** are not sufficient to cover such amounts, the **Contractor** shall immediately pay the difference to the **City**. The **Contractor** shall remain responsible for maintaining progress and shall not be entitled to any increase in the Contract Time or the Contract Sum.

18.2. Termination by the Contractor.

18.2.1. If, through no act or fault of the **Contractor**, a Subcontractor, or a Sub-subcontractor, the Work is suspended for a period of more than ninety (90) days by the **City**, or under an order of court or other public authority, or the **Design Professional** fails to act on any application for payment within thirty (30) days after it is submitted in proper form and content or the **City** fails for thirty (30) days to pay the **Contractor** any sum finally determined to be due, then the **Contractor** may terminate the Contract upon seven (7) days' written notice to the **City**, provided that the **City** does not remedy such suspension or failure within that time.

18.3. Termination by the City.

18.3.1. If the **Contractor** is adjudged a bankrupt, or if the **Contractor** makes a general assignment for the benefit of the **Contractor's** creditors, or if a receiver is appointed on account of the **Contractor's** insolvency, or if the Contractor makes a written admission of the Contractor's inability to pay debts, or if the Contractor becomes a debtor or defendant in (i) a voluntary or involuntary petition in bankruptcy, (ii) a petition for appointment of a receiver, (iii) a levy of an attachment or execution, (iv) a winding up or dissolution of a partnership or corporation, (v) or any other proceeding under which a court of competent jurisdiction assumes custody or control over the Contractor, or if the **Contractor** persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or fails to prosecute the work with such diligence as will, in the reasonable estimation of the City, ensure substantial completion within the time specified in the Contract Documents, or if the **Contractor** fails to make prompt payment to Subcontractors or for materials or labor, or persistently disregards laws, ordinances, rules, regulations, or orders of any public authority having jurisdiction or disregards an instruction, order, or decision of the **Design Professional**, or otherwise is in breach of any provision of the Contract and has failed to cure such breach after written notice from the City specifying 1) the breach, 2) what must be done to cure the breach, and 3) the time within which the breach must be cured, or otherwise is guilty of substantial violation of any provision of the Contract, then the **Contractor** shall be in default, and the **City** may, without prejudice to any other right or remedy and upon written notice to the **Contractor**, temporarily withhold cash payments pending correction of the deficiency, hold the Contractor and its sureties liable in damages, require the Contractor's sureties to complete the Contract, take possession of all materials, tools, appliances, equipment, construction equipment and machinery and vehicles, offices and other facilities on the Project Site, and all materials intended for the Work, wherever stored, without liability for loss or damage, following which use, the Contractor shall be liable for their removal from the site; and, seven (7) days after such notice, may terminate the employment of the **Contractor**, accept assignment of any or all subcontracts pursuant to Paragraph 6.6.1.1, and finish the Work by whatever method the **City** may deem expedient (including but not limited to using the services of another contractor (in which case the City shall have no obligation to use a competitive process to obtain the lowest contract prices) and look to the Contractor and the Contractor's sureties for the difference between the cost to complete the work and the contract sum hereunder.

. The **City** shall be entitled to collect from the **Contractor** all direct, indirect, and consequential damages suffered by the **City** on account of the **Contractor's** default, including without limitation additional services and expenses of the **Design Professional** made necessary thereby. The **City** shall be entitled to hold all amounts due to the **Contractor** at the date of termination until all of the **City's** damages have been established, and to apply such amounts to such damages.

18.3.1.1. HUD Action. If the Contractor is in default, HUD and/or any other administering agency named herein may, with or without the consent of the City, cancel, suspend, or terminate this Contract in whole or in part; require the withholding or disallowance all or part of the funding for the project; declare the contractor ineligible for further Government contracts or avail itself of any other remedies available under the law.

18.3.2. (*Reference:* Somerville Municipal Code Chapter 2.117, Section 2.117.110C). In the event the **Contractor** or any of its agents or employees violates any provision of Somerville Municipal Code Chapter 2.117 that is applicable to **City**

contractors in connection with the awarding, administration, or performance of the Contract, the **City** may terminate the Contract.

18.3.3. (a) The City may terminate this Contract without cause, at any time, effective upon the date of termination specified by written notice to the Contractor, in which case, the Contractor shall be compensated for: (1) sums due under this Contract incurred up to the date of termination for all Work performed and accepted by the City up to the termination date, calculated on a percentage completion basis covering the period of time between the last approved application for payment and the date of termination using the progress schedule and schedule of values. The Contractor shall use its best efforts to mitigate any expenses and shall in no event incur any new obligations after the date of termination.

(1) Payment by the City as provided in this section shall be deemed to fully compensate the Contractor for all expenses and those of any consultants, subcontractors and suppliers, directly or indirectly attributable to the termination. Lost profits shall not be payable. Any such termination shall not give rise to any cause of action for damages against the City.

(b) Contractor's Duties Upon Termination For Convenience. Upon termination of this Contract without cause, the Contractor shall: (1) immediately stop the Work; (2) stop placing orders and Subcontracts in connection with this Contract; (3) cancel all existing orders and Subcontracts (subject to the City providing notice that it accepts assignment of any or all subcontracts pursuant to Paragraph 6.6.1.1); (4) surrender the site to City in a safe condition; and (5) promptly transfer to City all materials, supplies, work in process, appliances, facilities, equipment and machinery of this Contract, and all work product, plans, drawings, specifications and other information and documents used in connection with Services performed under this Contract. Failure by the Contractor to comply with said duties shall relieve the City of its obligation to compensate the Contractor, as provided for under this section.

ARTICLE 19

AMERICANS WITH DISABILITIES ACT (42 U.S. 12131)

19.1. On July 26, 1994, the Americans with Disabilities Act ("the Act") became effective for employers of fifteen or more employees.

19.2. The Act protects against discrimination of the basis of "disability," which is defined as a physical or mental impairment that substantially limits at least one "major life activity;" or discrimination against an individual who has a record of such impairment; or discrimination against an individual being regarded - even if inaccurately - as having such impairment. The Act also expressly prohibits job discrimination that is based on any individual's relationship or association with a disabled person.

19.3. If the **Contractor** is subject to the Act, it must comply with its provisions.

ARTICLE 20

WRITTEN NOTICE TO THE PARTIES

20.1. In General.

20.1.1. All written communications from the **Design Professional** to the **Contractor** shall be copied to the **City**. All written communications from the **Contractor** to the **Design Professional** shall be copied to the **City**. All written communications from the **Contractor** to the **City** shall be copied to the **Design Professional**.

20.2. Addresses.

20.2.1. To the City. Written notice to the **City** shall be sent or hand-delivered to:

Mayor
City of Somerville
93 Highland Avenue
Somerville, MA 02143

City Solicitor
Law Department
93 Highland Avenue
Somerville, MA 02143

Director of Contracting Department (as stated on first page of this Agreement)
City Hall
93 Highland Avenue
Somerville, MA 02143

20.2.2. To the Contractor. Both the address given on the bid form upon which the Agreement is founded and the **Contractor's** office at or near the Site of the Work are hereby designated as places to either of which notices, letters, and other communications to the **Contractor** shall be certified, mailed, or delivered. Delivery of any notice, letter, or other communication to the **Contractor** at or depositing same in a postpaid wrapper directed to either place shall be deemed sufficient service thereof upon the **Contractor**. Written notice shall be deemed to have been duly served on the **Contractor** if it is sent or hand-delivered to any member or officer of the **Contractor**. The date of said service shall be the date of such delivery or mailing. The address may be changed at any time by an instrument in writing, executed and acknowledged by the **Contractor** and delivered to the **City** and to the **Design Professional**. Nothing herein contained shall be deemed to preclude or render inoperative the service of any notice, letter, or other communication upon the **Contractor** personally. Moreover, any notice, letter, or other communication required under the Contract may be served on the **Contractor's** representative at job meetings. The **Contractor** shall provide the **City** with its change of address seven (7) days prior to its effective date.

20.2.3. To the Design Professional. Written notice to the **Design Professional** shall be sent or hand-delivered to the address appearing on the Project Manual. Written notice shall be deemed to have been duly served on the **Design Professional** if it is sent or hand-delivered to any member or officer of the **Design Professional**.

ARTICLE 21 MISCELLANEOUS PROVISIONS

21.1. Governing Law.

21.1.1. This Contract shall be governed by the laws of the Commonwealth of Massachusetts and the United States of America.

21.2. Venue.

21.2.1. Venue for any court action or proceeding shall be Middlesex County in the Commonwealth of Massachusetts only. The **Contractor**, all Subcontractors, and Suppliers waive any and all jurisdictional and venue defenses.

21.3. Successors and Assigns.

21.3.1. The **Contractor** shall not assign, in whole or in part, its rights and obligations under the Contract Documents without prior written consent of the **City**. An assignment without the prior written consent of the **City** shall not relieve the **Contractor** of its obligations thereunder.

21.3.2. The **City** and the **Contractor** respectively bind themselves, their partners, successors, assigns, and legal representatives to the other party hereto and to partners, successors, assigns, and legal representatives of such other party in respect to covenants, agreements, and obligations contained in the Contract Documents.

21.4. Statutory Limitation Period.

21.4.1. It is expressly agreed that the obligations of the **Contractor** hereunder arise out of contractual duties, and that the failure of the **Contractor** to comply with the requirements of the Contract Documents shall constitute a breach of contract, not a tort, for the purpose of applicable statutes of limitations and repose. Any cause of action which the **City** may have on account of such failure shall be deemed to accrue only when the **City** has obtained actual knowledge of such failure, not before.

21.5. Rights and Remedies.

21.5.1. Duties and obligations imposed by the Contract Documents and rights and remedies available thereunder shall be in addition to and not a limitation of duties, obligations, rights, and remedies otherwise imposed or available by law.

21.5.2. No action or failure to act by the **City**, the **Design Professional**, or the **Contractor** shall constitute a waiver of a right or duty afforded them under the Contract, nor shall such action or failure to act constitute approval of or acquiescence in a breach thereunder, except as may be specifically agreed in writing.

21.6 Severability. In the event that any provision of this Agreement is found to be legally unenforceable, the remainder of the Agreement shall remain in full force and effect.

21.7 Conflict of Interest Laws. The City and the Contractor shall comply with all applicable conflict of interest statutes and regulations.

21.8 If this contract is in excess of \$2,000 and is federally funded, the Contractor shall comply with the Copeland "Anti-Kickback Act" (18 U.S.C. 874 and 29 CFR Part 3), and shall not induce any person employed in the construction, completion, or repair of a public building or public work, to give up any part of the compensation to which he would otherwise be entitled.

21.9. EQUAL EMPLOYMENT OPPORTUNITY/NONDISCRIMINATION

- a) the Contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, marital status, sexual orientation, national origin, age, disability, Vietnam Era veteran status or because an employee or applicant is a recipient of federal, state, or local public assistance or housing subsidies; and
 - b) the Contractor shall not discriminate, in any stage of the contract from award to completion, in the selection or retention of subcontractors, suppliers, and materialmen, or in the procurement of materials or supplies, or the rental of equipment, on the basis of race, religion, sex, marital status, sexual orientation, national origin, age, disability, Vietnam Era veteran status, or because an individual is a recipient of federal, state, or local public assistance or housing subsidies; and
 - c) the Contractor shall post an equal employment opportunity notice in conspicuous places at the worksite, shall make copies of such notice available to employees and job applicants, and shall send such notice to each labor union or representative of workers with which the Contractor has a collective bargaining agreement or other contract or understanding; and
 - d) the Contractor shall, to the greatest extent feasible, give employment and on-site training opportunities, to lower-income, minority, women, and disabled members of the local community and shall award subcontracts, when possible, to Minority Business Enterprises (MBE) and Women Business Enterprises (WBE).
- e) the contractor shall include language similar to the above in all subcontracts.

END

General Conditions for Federally Funded Contracts

OVERALL COMPLIANCE

1. Grantee shall comply with all provisions of the Housing and Community Development Act of 1974 and regulations issued pursuant thereto, the Community Development Block Grant (CDBG) Entitlement Program Regulations, 24 CFR 570 et seq. and instructions issued by the Funding source, and with all federal, state and local laws applicable to this contract.
2. Grantee shall comply with U.S. Office of Management and Budget (OMB) Circular A-102. Grantee hereby consents to jurisdiction of the federal court.
3. Grantee shall permit the City, HUD, the Comptroller General of the United States, or any of their duly authorized representatives, to have access to any books, documents, papers, and records of the Grantee relating to this contract.

AFFIRMATIVE ACTION FOR HANDICAPPED WORKERS

4. Grantee shall not discriminate against any employee or applicant for employment because of physical or mental handicap in regard to any position for which the employee or applicant for employment is qualified. The Grantee agrees to take affirmative action to employ, advance in employment and otherwise treat qualified handicapped individuals without discrimination based upon their physical or mental handicap in all employment practices.
5. The Grantee agrees to comply with all rules, regulations and relevant orders issued pursuant to the Rehabilitation Act of 1973. In the event of the Grantee's noncompliance with the requirements of this clause, actions for noncompliance may be taken in accordance with the rules, regulations and orders issued pursuant to the Rehabilitation Act. The Grantee shall notify all those with whom it has contracted that the subgrantee is bound by the terms of the Rehabilitation Act of 1973, and is committed to take affirmative action to employ and advance in employment physically and mentally handicapped individuals.

ENVIRONMENTAL PROTECTION

6. National Environmental Policy Act: The Grantee shall cooperate and assist the City in complying with the HUD Environmental Review Procedures (24 CFR Part 58).
7. Clean Air Act: If this contract is in excess of \$100,000.00, Grantee shall comply with the Clean Air Act of 1970.

HISTORIC PRESERVATION

8. Grantee shall comply with all federal laws and regulations governing historic preservation, the Historic Districts Act of the Commonwealth of Massachusetts (G.L. Ch. 40C) and the City of Somerville Historic District Ordinance.

WORK HOURS AND SAFETY STANDARDS

9. In construction contracts in excess of \$2,000 and other contracts in excess of \$2,500, the Grantee shall comply with Sections 103 and 107 of the Contract Work Hours Safety Standards Act (40 U.S.C. 327-330.)

CONFLICT OF INTEREST

10. Grantee shall comply with all federal and state conflict of interest statutes and regulations.

NONDISCRIMINATION UNDER TITLE VI OF THE CIVIL RIGHTS ACT OF 1964

11. Grantee shall comply with the requirements of Title VI of the Civil Rights Act of 1964 (P.L. 88-352) and HUD regulations thereto. In the sale, lease or other transfer of land acquired, cleared or improved with assistance provided under this contract, the Grantee shall cause or require a covenant running with the land to be inserted in the deed or lease for such transfer, prohibiting discrimination upon the basis of race, color, religion, sex or national origin, in the sale, lease, or rental, or in the use or occupancy of such land or any improvements erected or to be erected thereon, and providing that the Grantee, the City of Somerville and the United States are beneficiaries of and entitled to enforce such covenant. The Grantee, in undertaking its obligation in carrying out the Project assisted hereunder, agrees to take such measures as are necessary to enforce such covenant and shall not itself so discriminate.

COPYRIGHTS AND PATENTS

12. Copyrights: The Grantee agrees that where any activity performed under this contract results in a book or other copyrightable material the Grantee is free to copyright the work, but the City and HUD reserve a royalty-free, non-exclusive and irrevocable license to reproduce, publish, or otherwise use, and to authorize others to use the work for government purposes.

13. Patents: The Grantee agrees that if activities performed under this contract produce any patentable items, patent rights, processes, or inventions, such fact shall be promptly and fully reported to the City and HUD, and absent an agreement to the contrary, HUD shall determine whether protection of such invention or discovery shall be sought and how the rights in the invention or discovery, including the rights under any patent issued thereon shall be allocated and administered in order to protect the public interest.

UNIFORM ADMINISTRATIVE REQUIREMENTS

The following uniform administrative requirements set forth in 24 CFR 570.502 are applicable to grantees which fall within the definition of "subrecipient" set for in 24 CFR 570.500:

14. Subrecipients which are Government Agencies: subrecipients which are governmental Agencies shall comply with the requirements and standards of OMB Circular No. A-87, "Cost Principles for State, Local, and Indian Tribal Governments"; OMB Circular A-128, "Audits of State and Local Governments" (implemented at 24 CFR part 44); and with the following sections of 24 CFR part 85, "Uniform Administrative Requirements for Grants and Cooperative Agreements to State and Local Governments" or the related CDBG provisions, as specified in this paragraph: (1) Section 85.3, "Definitions"; (2) Section 85.6, "Exceptions"; (3) Section 85.12, "Special grant or subgrant conditions for 'high risk' grantees"; (4) Section 85.20, "Standards for financial management systems", except paragraph (a); (5) Section 85.21, "Payment", except as modified by §570.513; (6) Section 85.22, "Allowable Costs"; (7) Section 85.26, "Non-federal audits"; (8) Section 85.32, "Equipment", except in all cases in which the equipment is sold, the proceeds shall be program income; (9) Section 85.3, "Supplies"; (10) Section 85.34, "Copyrights"; (11) Section 85.35, "Subawards to debarred and suspended parties"; (12) Section 85.36, "Procurement", except paragraph (a); (13) Section 85.37 "Subgrants"; (14) Section 85.40, "Monitoring and Reporting Program Performance", except paragraphs (b) through (d) and paragraph (f); (15) Section 85.41, "Financial Reporting", except paragraphs (a), (b), and (e); (16) Section 85.42 "Retention and Access Requirements for Your Records", except that the period shall be four years; Section 85.43, "Enforcement"; (18) Section 85.44 "Termination for Convenience", (19) Section 85.51, "Later Disallowances and Adjustments" and (20) Section 85.52, "Collection of Amounts Due".
15. Subrecipients, except Subrecipients who are Governmental Agencies: subrecipients, except subrecipients who are governmental entities shall comply with the requirement and standards of OMB Circular No. A-122, "Cost Principles for Nonprofit Organizations", or OMB Circular No. A-21, "Cost Principles for Educational Institutions", as applicable, and OMB Circular A-133, "Audits of Institutions of Higher Education and Other Nonprofit Institutions" (as set forth in 24 CFR part 45). Audits shall be conducted annually. Such subrecipients shall also comply with the following provisions of the Uniform Administrative Requirements of OMB Circular A-110 (implemented at 24 CFR part 84,

“Uniform Administrative Requirements for Grants and Agreements with Institutions of Higher Education, Hospitals, and other Nonprofit Organizations”) or the related CDBG provision as specified in this paragraph:

- (1) Subpart A – “General”;
- (2) Subpart B – “Pre-Award Requirements” except for §84.12, “Forms for Applying for Federal Assistance”;
- (3) Subpart C – “Post-Award Requirements”, except for
 - (i) Section 84.22, “Payment Requirements”, Grantee shall follow the standards of §85.20(b)(7) and §85.21 in making payments to subrecipients;
 - (ii) Section 84.23, “Cost Sharing and Matching”;
 - (iii) Section 84.24, “Program Income”. In lieu of §84.24m CDBG subrecipients shall follow §570.504;
 - (iv) Section 84.25, “Revision of Budget and Program Plans”;
 - (v) Section 84.32, “Real Property”. In lieu of §85.32, CDBG Subrecipients shall follow §570.505;
 - (vi) Section 84.24(g), “Equipment”. In lieu of disposition provisions of §84.34(g), the following applies: (A) In all cases in which equipment is sold, the proceeds shall be program income (prorated to reflect the extent to which CDBG funds were used to acquire the equipment); and (B) Equipment not needed by the subrecipient for CDBG activities shall be transferred to the recipient for the CDBG program or shall be retained after compensating the recipient;
 - (vii) Section 84.51 (b), (c), (d), (e), (f), (g), and (h), “Monitoring and Reporting Program Performance”;
 - (viii) Section 84.52, “Financial Reporting”;
 - (ix) Section 84.53(b), “Retention and Access Requirements for Records”. Section 84.53(b) applies with the following exceptions: (A) the retention period reference in §84.53(b) pertaining to individual CDBG activities shall be four years; and (B) the retention period starts from the date of submission of the annual performance and evaluation report, as prescribed in 24 CFR 91.520, in which the specific activity is reported on for the final time rather than from the date of submission of the final expenditure report for the award;
 - (x) Section 84.61, “Termination”. In lieu of the provisions of §84.61, CDBG subrecipients shall comply with §570.503(b)(7)
- (4) Subpart D - “After-the-Award Requirements”, except for §84.71, “Closeout Procedures”.

REAL PROPERTY ACQUIRED WITH CDBG FUNDS

16. In accordance with 24 CFR 570.503, “subrecipients”, as defined in §570.500, shall ensure that real property acquired with CDBG funds (including funds provided to the subrecipient in the form of a loan) in excess of \$25,000 is either
 - (i) Used to meet one of the national objectives in §570.208 (formerly §570.901) until five years after expiration of the agreement or for such longer period of time as determined to be appropriate by the recipient; or
 - (ii) If not used in accordance with the foregoing paragraph, the subrecipient shall pay to the recipient an amount equal to the current

market value of the property less any portion of the value attributable to expenditures of non-CDBG funds for the acquisition or, or improvement to, the property, which shall be program income to the recipient, provided however that no payment is required after the period of time specified in the foregoing paragraph.

COMPLIANCE WITH SUBPART K – OTHER PROGRAM REQUIREMENTS

All grantees, including “subrecipients” as defined in 24 CFR 570.500. shall comply with applicable program requirements set forth in Subpart K, 24 CFR 570.600, including the following:

- 570.601 Public Law 88-352, which is title VI of the Civil Rights Act; Public Law 90-284, affirmatively furthering Fair Housing; and Executive Order 11063, as amended, dealing with equal opportunity in housing.
- 570.602 Section 109 of Title I of the Housing and Development Act of 1974 (the “Act”) requiring that no person in the United States shall, on the ground of race, color, national origin, religion, sex, age or disability, be denied the benefits of or subject to discrimination under any program or activity receiving federal financial assistance under the Act.
- 570.603 The Labor Standards in Section 110(a) of the Act, including compliance with the Contract Work Hours and Safety Standards Act (40 U.S.C. 327).
- 570.604 Environmental Standards set forth at 24 CFR Part 58, except that subrecipient does not assume the recipient’s environmental responsibilities described at 24 CFR 570.604, nor is the subrecipient responsible for initiating the review process under the provisions of 24 CFR Part 52.
- 570.605 The National Flood Insurance Program, the Flood Disaster Protection Act of 1973 (42 U.S.C. 4106), and regulations at 44 CFR Parts 59 through 79.
- 570.606 Residential Anti-displacement regulations at 24 CFR Part 42, Subpart B; relocation assistance regulations at 49 CFR Part 29; and regulations governing acquisition of real property for an assisted activity at 49 CFR Part 24, Subpart B.
- 570.607 Equal employment opportunities as set forth in Executive Order 11246, as amended by subsequent Executive Orders; equal protection of the laws for faith-based and community organizations as set forth in Executive Order 13279; and contracting opportunities set forth in Section 3 of the Housing and Urban Development Act of 1968 and implementing regulations.
- 570.608 The Lead-Based Paint Poisoning Prevention Act (42 U.S.C. 4821-4846); the Residential Lead-Based Paint Hazard Reduction Act of 1992 (42 U.S.C. 4851-4856), and implementing regulations at 24 CFR Part 35, Subparts A through R, except that only Subparts A, B, J, K, and R apply to the CDBG Program. *In addition, as required by 24 CFR, 35.145, all lead-based paint activities shall also comply with the National Environmental Review Policy Act of 1969 (42 U.S.C. 4321), and the Toxic Substances Control Act, Title IV (15 U.S.C. 2860) and other environmental laws and authorities.*
- 570.609 Use of debarred, suspended, or ineligible contractors or subrecipients, as set forth in 24 CFR Part 5.
- 570.610 Uniform Administrative Requirements and Cost Principles. The City, as “recipient” and all “subrecipients” as both terms are defined in 24CFR 570.500, and other grantees receiving federal funds to which the following policies, guidelines, and requirements are applicable, shall comply with 24 CFR Part 85 and OMB Circulars A-87, A-110 (implemented at 24 CFR Part 84), A-122. A-133 (implemented at 24 CFR Part 45), and A-128 (implemented at 24 CFR Part 44), as applicable, as they related to the acceptance and use of federal funds.

ma13.dvb
General Decision Number: MA170013 05/12/2017 MA13

Superseded General Decision Number: MA20160013

State: Massachusetts

Construction Types: Heavy (Heavy and Marine)

Counties: Barnstable, Bristol, Dukes, Essex, Middlesex, Nantucket, Norfolk, Plymouth and Suffolk Counties in Massachusetts.

HEAVY AND MARINE CONTRUCTION PROJECTS

Note: Under Executive Order (EO) 13658, an hourly minimum wage of \$10.20 for calendar year 2017 applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2015. If this contract is covered by the EO, the contractor must pay all workers in any classification listed on this wage determination at least \$10.20 (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in calendar year 2017. The EO minimum wage rate will be adjusted annually. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

Modification Number	Publication Date
0	01/06/2017
1	01/13/2017
2	02/03/2017
3	03/03/2017
4	03/17/2017
5	04/14/2017
6	05/05/2017
7	05/12/2017

BOIL0029-001 01/01/2017

	Rates	Fringes
BOILERMAKER.....	\$ 42.42	24.92

BRMA0001-011 03/01/2017

FOXBORO CHAPTER

BRISTOL (Attleboro, Berkley, Dighton, Mansfield, North Attleboro, Norton, Raynham, Rehoboth, Seekonk, Taunton); NORFOLK, (Bellingham, Canton, Dedham, Foxboro, Franklin, Norfolk, Norwood, Plainville, Sharon, Walpole, Westwood, Wrentham); and PLYMOUTH (Lakeville)

	Rates	Fringes
Bricklayer/Cement Mason.....	\$ 48.66	29.47

BRMA0001-012 03/01/2017

LOWELL CHAPTER

ma13.dvb
Rates Fringes

BRICKLAYER

WALTHAM CHAPTER -
MIDDLESEX (Belmont,
Burlington, Concord,
Lexington, Lincoln,
Stoneham, Sudbury,
Waltham, Watertown,
Wayland, Weston,
Winchester, Woburn).....\$ 50.76 30.34

BRMA0003-014 03/01/2017

QUINCY CHAPTER

PLYMOUTH COUNTY (Abington, Bridgewater, Brockton, Carver,
Duxbury, East Bridgewater, Halifax, Hanover, Hanson, Hingham,
Hull, Kingston, Marshfield, Middleboro, Norwell, Pembroke,
Plymouth, Rockland, Scituate, West Bridgewater, Whitman)

Rates Fringes

Bricklayer/Cement Mason.....\$ 50.76 30.34

BRMA0003-025 03/01/2017

NEW BEDFORD CHAPTER

BARNSTABLE; BRISTOL (Acushnet, Dartmouth, Fairhaven, Fall River,
Freetown, New Bedford, Somerset, Swansea, Westport); DUKES;
NANTUCKET; PLYMOUTH (Marion, Mattapoisett, Rochester, Wareham)

Rates Fringes

Bricklayer/Cement Mason.....\$ 50.76 30.34

BRMA0003-033 03/01/2017

NEWTON CHAPTER

MIDDLESEX (Newton); NORFOLK (Dover, Needham, Wellesley)

Rates Fringes

Bricklayer, Plasterer.....\$ 50.76 30.34

CARP0026-003 09/01/2016

BRISTOL (Attleborough, North Attleborough); ESSEX; MIDDLESEX
(Except Belmont, Cambridge, Everett, Malden, Medford,
Somerville); AND NORFOLK (Bellingham, Braintree, Canton,
Cohasset, Foxboro, Franklin, Medfield, Medway, Millis,
Needham, Norfolk, Norwood, Plainville, Quincy, Sharon, Walpole,
Wellesley, Westwood, Weymouth, Wrentham) COUNTIES

Rates Fringes

CARPENTER.....\$ 37.80 27.40

DUKES; NANTUCKET

	Rates	Fringes
CARPENTER.....	\$ 44.73	27.85

CARP0624-006 09/01/2016

BARNSTABLE; BRISTOL (Except Attleboro & North Attleboro);
 NORFOLK (Avon, Holbrook, Randolph, Stoughton); PLYMOUTH
 (Bridgewater, Kingston, Lakeville, Middleboro, Plymouth, S.
 Hanover, Whitman)

	Rates	Fringes
CARPENTER.....	\$ 37.80	27.40

CARP1121-001 04/01/2017

	Rates	Fringes
MILLWRIGHT.....	\$ 38.62	29.50

* ELEC0096-001 02/01/2017

MIDDLESEX (Ashby, Ashland, Ayer, Ft. Devens, Groton, Hopkinton,
 Hudson, Marlboro, Peppereil, Shirley, Stow, Townsend)

	Rates	Fringes
ELECTRICIAN.....	\$ 41.07	11%+19.56
Teledata System Installer.....	\$ 26.16	22.49

ELEC0099-001 06/01/2016

BRISTOL (Attleboro, North Attleboro, Seekonk)

	Rates	Fringes
ELECTRICIAN.....	\$ 36.83	58.39%
Teledata System Installer.....	\$ 27.62	13.42%+13.57

ELEC0103-002 03/01/2017

ESSEX (Amesbury, Andover, Boxford, Georgetown, Groveland,
 Haverhill, Lawrence, Merrimac, Methuen, Newbury, Newburyport,
 North Andover, Rowley, Salisbury, West Newbury); MIDDLESEX
 (Bedford, Billerica, Boxboro, Burlington, Carlisle, Chelmsford,
 Dracut, Dunstable, Littleton, Lowell, North Reading, Tewksbury,
 Tyngsboro, Westford, Wilmington)

	Rates	Fringes
ELECTRICIAN.....	\$ 48.33	31.17

ELEC0103-004 03/01/2017

ESSEX (Beverly, Danvers, Essex, Gloucester, Hamilton, Ipswich,
 Manchester, Marblehead, Middleton, Peabody, Rockport, Salem,

ma13.dvb
Group 6.....\$ 26.94 26.15+A

HOURLY PREMIUM FOR BOOM LENGTHS (Including Jib):

Over 150 ft. +2.12
Over 185 ft. +3.72
Over 210 ft. +5.23
Over 250 ft. +7.92
Over 295 ft. +10.97
Over 350 ft. +12.76

FOOTNOTE FOR POWER EQUIPMENT OPERATORS:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday,
Labor Day, Memorial Day, Independence Day, Patriot's Day,
Columbus Day, Veteran's Day, Thanksgiving Day, Christmas Day

POWER EQUIPMENT OPERATORS CLASSIFICATIONS [HEAVY
CONSTRUCTION]

GROUP 1: Power shovel; crane; truck crane; derrick; pile
driver; trenching machine; mechanical hoist pavement
breaker; cement concrete paver; dragline; hoisting engine;
three drum machine; pumpcrete machine; loaders; shovel
dozer; front end loader; mucking machine; shaft hoist;
steam engine; backhoe; gradall; cable way; fork lift;
cherry picker; boring machine; rotary drill; post hole
hammer; post hole digger; asphalt plant on job site;
concrete batching and/or mixing plant on job site; crusher
plant on job site; paving concrete mixer; timber jack
GROUP 2: Sonic or vibratory hammer; grader; scraper; tandem
scraper; bulldozer; tractor; mechanic - maintenance; York
rake; mulching machine; paving screed machine; stationary
steam boiler; paving concrete finishing machine; grout
pump; portable steam boiler; portable steam generator;
roller; spreader; asphalt paver; locomotives or machines
used in place thereof; tamper (self propelled or
tractor-draw); cal tracks; ballast regulator; rail anchor
machine; switch tamper; tire truck
GROUP 3: Pumps (1-3 grouped); compressor; welding machines
(1-3 grouped); generator; sighting plant; heaters (power
driven, 1- 5); syphon-pulsometer; concrete mixer; valves
controlling permanent plant air steam, conveyor, wellpoint
system (operating)

GROUP 4: Assistant engineer (fireman)

GROUP 5: Oiler (other than truck cranes and gradalls)

GROUP 6: Oiler (on truck cranes and gradalls)

IRON0007-001 03/16/2016

AREA 1: BRISTOL (Easton); ESSEX (Beverly, Gloucester, Lynn,
Lynnfield, Manchester, Marblehead, Nahant, Rockport, Salem,
Saugus, Swampscott); MIDDLESEX (Arlington, Bedford, Belmont,
Burlington, Cambridge, Carlisle, Concord, Dunstable, Everett,
Framingham, Lexington, Lincoln, Malden, Maynard, Medford,
Melrose, Natick, Newton, Reading, Sherborn, Somerville,
Stoneham, Sudbury, Wakefield, Waltham, Watertown, Wayland,
Weston, Winchester, Woburn); NORFOLK (Except Medway); PLYMOUTH
(Abington, Bridgewater, Brockton, Duxbury, East Bridgewater,
Halifax, Hanover, Hanson, Hingham, Hull, Kingston, Marshfield,
Norwell, Pembroke, Plymouth, Plympton, Rockland, Scituate, West
Bridgewater, Whitman); SUFFOLK

AREA 2: ESSEX (Amesbury, Andover, Boxford, Danvers, Essex,
Georgetown, Hamilton, Haverhill, Ipswich, Lawrence, Merrimac,

ma13.dvb

GROUP 2: Asphalt raker; fence and guard rail erector; laser beam operator; mason tender; pipelayer; pneumatic drill operator; pneumatic tool operator; wagon drill operator

GROUP 3: Air track operator; block paver; rammer; curb setter

GROUP 4: Blaster; powderman

GROUP 5: Flagger

GROUP 6: Asbestos Abatement; Toxic and Hazardous Waste Laborers

LABO0022-012 06/01/2016

Counties of BARNSTABLE; BRISTOL; DUKES; ESSEX; NANTUCKET; PLYMOUTH; MIDDLESEX (With the exception of Arlington, Belmont, Burlington, Cambridge, Everett, Malden, Melrose, Reading, Somerville, Stoneham, Wakefield, Winchester, Winthrop and Woburn); NORFOLK (With the exception of Brookline, Dedham, and Milton)

	Rates	Fringes
Laborers:		
GROUP 1.....	\$ 31.65	21.30
GROUP 2.....	\$ 31.90	21.30
GROUP 3.....	\$ 32.40	21.30
GROUP 4.....	\$ 32.65	21.30
GROUP 5.....	\$ 20.50	21.30
GROUP 6.....	\$ 33.65	21.30

LABORERS CLASSIFICATIONS

GROUP 1: Laborers; carpenter tenders; cement finisher tenders

GROUP 2: Asphalt raker; fence and guard rail erector; laser beam operator; mason tender; pipelayer; pneumatic drill operator; pneumatic tool operator; wagon drill operator

GROUP 3: Air track operator; block paver; rammer; curb setter; hydraulic & similar self powered drills

GROUP 4: Blaster; powderman

GROUP 5: Flagger

GROUP 6: Asbestos Abatement; Toxic and Hazardous Waste Laborers

LABO0022-013 06/01/2016

	Rates	Fringes
Laborers:		
(FREE AIR OPERATION):		
SHIELD DRIVEN AND LINER		
PLATE IN FREE AIR)		

LABORERS CLASSIFICATIONS for (FREE AIR OPERATION): SHIELD
DRIVEN AND LINER PLATE IN FREE AIR

GROUP 1: Miner; miner welder; conveyor operator; motorman;
mucking machine operator; nozzle man; grout man-; pumps,
shaft and tunnel steel and rodman; shield and erector arm
operators, mole nipper, outside motorman, burner, TBM
operator, safety miner; laborer topside; heading motormen;
erecting operators; top signal men

GROUP 2: Brakeman; trackman

LABORERS CLASSIFICATIONS FOR CLEANING CONCRETE AND CAULKING
TUNNEL (Both New & Existing)

GROUP 1: Concrete workers; strippers and form movers (wood &
steel), cement finisher

GROUP 2: Form erector (wood & steel and all accessories)

LABORERS CLASSIFICATIONS for ROCK SHAFT, CONCRETE LINING OF
SAME AND TUNNE IN FREE AIR

GROUP 1: Change house attendants

GROUP 2: Laborers, topside, bottom men (when heading is 50
ft. from shaft) and all other laborers

GROUP 3: Brakeman; trackman; tunnel laborers; shaft laborers

GROUP 4: Miner; cage tender; bellman

GROUP 5: Hazardous waste work within the "HOT" zone. (A
premium of two dollars \$2.00 per hour over the basic wage
rate)

FOOTNOTE FOR LABORERS:

A. PAID HOLIDAYS: New Year's Day, Washington's Birthday,
Patriot's Day, Memorial Day, Independence Day, Labor Day,
Columbus Day, Veteran's Day, Thanksgiving Day, and
Christmas Day

LAB01421-001 07/01/2016

WRECKING LABORERS:

	Rates	Fringes
Laborers: (wrecking)		
Group 1.....	\$ 36.00	22.45
Group 2.....	\$ 36.75	22.45
Group 3.....	\$ 37.00	22.45
Group 4.....	\$ 32.00	22.45
Group 5.....	\$ 35.10	22.45

ma13.dvb
 Plumbers and Pipefitters.....\$ 42.81 25.51

 PLUM0012-001 03/01/2017

ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Manchester, Marblehead, Merrimac, Methuen, Middleton, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salem, Salisbury, Topsfield, Wenham, West Newbury)

	Rates	Fringes
PLUMBER.....	\$ 48.36	28.38

 PLUM0012-003 03/01/2017

ESSEX (Ames, Andover, Beverly, Boxford, Byfield, Danvers, Essex, Georgetown, Gloucester, Groveland, Hamilton, Haverhill, Ipswich, Lawrence, Manchester, Marblehead, Merrimac, Methuen, Middleton, Newbury, Newburyport, North Andover, Peabody, Rockport, Rowley, Salem, Salisbury, Topsfield, Wenham, West Newbury)

	Rates	Fringes
Plumber, Pipefitter, Steamfitter.....	\$ 48.36	28.38

 PLUM0012-006 03/01/2017

ESSEX (Lynn, Lynnfield, Nahant, Saugus, and Swampscott); MIDDLESEX (Acton, Arlington, Ashland, Ayer - except W. of Greenville Branch of Boston & Maine RR, Bedford, Belmont, Billerica, Boxboro, Burlington, Cambridge, Carlisle, Chelmsford, Concord, Dracut, Dunstable, Everett, Framingham, Hudson, Holliston, Hopkinton, Lexington, Lincoln, Littleton, Lowell, Malden, Marlboro, Maynard, Medford, Melrose, Natick, Newton, North Reading, Pepperell, Reading, Sherborn, Somerville, Stoneham, Stow, Sudbury, Tewksbury, Tyngsboro, Wakefield, Waltham, Watertown, Wayland, Westford, Wilmington, Winchester, Woburn); NORFOLK (Bellingham, Braintree, Brookline, Canton, Cohasset, Dedham, Dover, Foxboro, Franklin, Medfield, Medway, Millis, Milton, Needham, Norfolk, Norwood, Plainville, Quincy, Sharon, Walpole, Wellesley, Westwood, Weymouth, Wrentham); PLYMOUTH (Hingham, Hull, Scituate); SUFFOLK

	Rates	Fringes
PLUMBER.....	\$ 52.44	28.38

 PLUM0051-005 09/01/2016

BARNSTABLE; BRISTOL; DUKES; NANTUCKET; NORFOLK (Avon, Holbrook, Randolph, Stoughton) PLYMOUTH(Remainder of County)

Rates	Fringes
-------	---------

Day

B. PAID VACATION: Employees with 4 months to 1 year of service receive 1/2 day's pay per month; 1 week vacation for 1 - 5 years of service; 2 weeks vacation for 5 - 10 years of service; and 3 weeks vacation for more than 10 years of service

WELDERS - Receive rate prescribed for craft performing operation to which welding is incidental.

Note: Executive Order (EO) 13706, Establishing Paid Sick Leave for Federal Contractors applies to all contracts subject to the Davis-Bacon Act for which the contract is awarded (and any solicitation was issued) on or after January 1, 2017. If this contract is covered by the EO, the contractor must provide employees with 1 hour of paid sick leave for every 30 hours they work, up to 56 hours of paid sick leave each year. Employees must be permitted to use paid sick leave for their own illness, injury or other health-related needs, including preventive care; to assist a family member (or person who is like family to the employee) who is ill, injured, or has other health-related needs, including preventive care; or for reasons resulting from, or to assist a family member (or person who is like family to the employee) who is a victim of, domestic violence, sexual assault, or stalking. Additional information on contractor requirements and worker protections under the EO is available at www.dol.gov/whd/govcontracts.

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 clauses (29CFR 5.5 (a) (1) (ii)).

The body of each wage determination lists the classification and wage rates that have been found to be prevailing for the cited type(s) of construction in the area covered by the wage determination. The classifications are listed in alphabetical order of "identifiers" that indicate whether the particular rate is a union rate (current union negotiated rate for local), a survey rate (weighted average rate) or a union average rate (weighted union average rate).

Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than "SU" or "UAVG" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing

ma13.dvb

because those Regional Offices have responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations
Wage and Hour Division
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board
U.S. Department of Labor
200 Constitution Avenue, N.W.
Washington, DC 20210

4.) All decisions by the Administrative Review Board are final.

=====

END OF GENERAL DECISION



CHARLES D. BAKER
Governor

KARYN E. POLITO
Lt. Governor

THE COMMONWEALTH OF MASSACHUSETTS
EXECUTIVE OFFICE OF LABOR AND WORKFORCE DEVELOPMENT
DEPARTMENT OF LABOR STANDARDS

Prevailing Wage Rates

As determined by the Director under the provisions of the
Massachusetts General Laws, Chapter 149, Sections 26 to 27H

RONALD L. WALKER, II
Secretary

WILLIAM D MCKINNEY
Director

Awarding Authority: City of Somerville

Contract Number:

City/Town: SOMERVILLE

Description of Work: Phase 2 Renovation of a park and playground at Winter Hill Community School

Job Location: 155 Sycamore St., Somerville, MA

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- This wage schedule applies only to the specific project referenced at the top of this page and uniquely identified by the "Wage Request Number" on all pages of this schedule.
- An Awarding Authority must request an updated wage schedule from the Department of Labor Standards ("DLS") if it has not opened bids or selected a contractor within 90 days of the date of issuance of the wage schedule. For CM AT RISK projects (bid pursuant to G.L. c.149A), the earlier of: (a) the execution date of the GMP Amendment, or (b) the bid for the first construction scope of work must be within 90-days of the wage schedule issuance date.
- The wage schedule shall be incorporated in any advertisement or call for bids for the project as required by M.G.L. c. 149, § 27. The wage schedule shall be made a part of the contract awarded for the project. The wage schedule must be posted in a conspicuous place at the work site for the life of the project in accordance with M.G.L. c. 149 § 27. The wages listed on the wage schedule must be paid to employees performing construction work on the project whether they are employed by the prime contractor, a filed sub-bidder, or any sub-contractor.
- All apprentices working on the project are required to be registered with the Massachusetts Department of Labor Standards, Division of Apprentice Standards (DLS/DAS). Apprentice must keep his/her apprentice identification card on his/her person during all work hours on the project. An apprentice registered with DAS may be paid the lower apprentice wage rate at the applicable step as provided on the prevailing wage schedule. **Any apprentice not registered with DLS/DAS regardless of whether or not they are registered with any other federal, state, local, or private agency must be paid the journeyworker's rate for the trade.**
- The wage rates will remain in effect for the duration of the project, except in the case of multi-year public construction projects. For construction projects lasting longer than one year, awarding authorities must request an updated wage schedule. Awarding authorities are required to request these updates no later than two weeks before the anniversary of the date the contract was executed by the awarding authority and the general contractor. For multi-year CM AT RISK projects, awarding authority must request an annual update no later than two weeks before the anniversary date, determined as the earlier of: (a) the execution date of the GMP Amendment, or (b) the execution date of the first amendment to permit procurement of construction services. Contractors are required to obtain the wage schedules from awarding authorities, and to pay no less than these rates to covered workers. The annual update requirement is not applicable to 27F "rental of equipment" contracts.
- Every contractor or subcontractor which performs construction work on the project is required to submit weekly payroll reports and a Statement of Compliance directly to the awarding authority by mail or email and keep them on file for three years. Each weekly payroll report must contain: the employee's name, address, occupational classification, hours worked, and wages paid. Do not submit weekly payroll reports to DLS. A sample of a payroll reporting form may be obtained at <http://www.mass.gov/dols/pw>.
- Contractors with questions about the wage rates or classifications included on the wage schedule have an affirmative obligation to inquire with DLS at (617) 626-6953.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may report the violation to the Fair Labor Division of the office of the Attorney General at (617) 727-3465.
- Failure of a contractor or subcontractor to pay the prevailing wage rates listed on the wage schedule to all employees who perform construction work on the project is a violation of the law and subjects the contractor or subcontractor to civil and

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$33.25	\$10.91	\$10.89	\$0.00	\$55.05
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$33.32	\$10.91	\$10.89	\$0.00	\$55.12
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$33.44	\$10.91	\$10.89	\$0.00	\$55.24
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.29	\$9.80	\$19.23	\$0.00	\$117.32
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2016	\$37.10	\$7.60	\$14.15	\$0.00	\$58.85
	06/01/2017	\$38.10	\$7.60	\$14.15	\$0.00	\$59.85
	12/01/2017	\$38.95	\$7.60	\$14.15	\$0.00	\$60.70
	06/01/2018	\$39.90	\$7.60	\$14.15	\$0.00	\$61.65
	12/01/2018	\$40.85	\$7.60	\$14.15	\$0.00	\$62.60
	06/01/2019	\$41.85	\$7.60	\$14.15	\$0.00	\$63.60
	12/01/2019	\$42.85	\$7.60	\$14.15	\$0.00	\$64.60
For apprentice rates see "Apprentice- LABORER"						
ASBESTOS REMOVER - PIPE / MECH. EQUIPT. <i>HEAT & FROST INSULATORS LOCAL 6 (BOSTON)</i>	12/01/2016	\$33.90	\$11.50	\$7.10	\$0.00	\$52.50
	06/01/2017	\$34.90	\$11.50	\$7.10	\$0.00	\$53.50
	12/01/2017	\$35.90	\$11.50	\$7.10	\$0.00	\$54.50
	06/01/2018	\$36.90	\$11.50	\$7.10	\$0.00	\$55.50
	12/01/2018	\$37.90	\$11.50	\$7.10	\$0.00	\$56.50
	06/01/2019	\$38.90	\$11.50	\$7.10	\$0.00	\$57.50
	12/01/2019	\$39.90	\$11.50	\$7.10	\$0.00	\$58.50
	06/01/2020	\$40.90	\$11.50	\$7.10	\$0.00	\$59.50
	12/01/2020	\$41.90	\$11.50	\$7.10	\$0.00	\$60.50
ASPHALT RAKER <i>LABORERS - ZONE 1</i>	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10
For apprentice rates see "Apprentice- LABORER"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 1</i>	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 1</i>	12/01/2016	\$37.10	\$7.60	\$14.15	\$0.00	\$58.85
	06/01/2017	\$38.10	\$7.60	\$14.15	\$0.00	\$59.85
	12/01/2017	\$38.95	\$7.60	\$14.15	\$0.00	\$60.70
	06/01/2018	\$39.90	\$7.60	\$14.15	\$0.00	\$61.65
	12/01/2018	\$40.85	\$7.60	\$14.15	\$0.00	\$62.60
	06/01/2019	\$41.85	\$7.60	\$14.15	\$0.00	\$63.60
	12/01/2019	\$42.85	\$7.60	\$14.15	\$0.00	\$64.60
For apprentice rates see "Apprentice- LABORER"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2017	\$42.92	\$6.97	\$16.21	\$0.00	\$66.10

Apprentice - BOILERMAKER - Local 29

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
2	65	\$27.90	\$6.97	\$10.54	\$0.00	\$45.41
3	70	\$30.04	\$6.97	\$11.35	\$0.00	\$48.36
4	75	\$32.19	\$6.97	\$12.16	\$0.00	\$51.32
5	80	\$34.34	\$6.97	\$12.97	\$0.00	\$54.28
6	85	\$36.48	\$6.97	\$13.78	\$0.00	\$57.23
7	90	\$38.63	\$6.97	\$14.59	\$0.00	\$60.19
8	95	\$40.77	\$6.97	\$15.40	\$0.00	\$63.14

Notes:

Apprentice to Journeyworker Ratio:1:5

BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING) <i>BRICKLAYERS LOCAL 3 (BOSTON)</i>	03/01/2017	\$50.76	\$10.75	\$19.22	\$0.00	\$80.73
--	------------	---------	---------	---------	--------	---------

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Boston

Effective Date - 03/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.38	\$10.75	\$19.22	\$0.00	\$55.35
2	60	\$30.46	\$10.75	\$19.22	\$0.00	\$60.43
3	70	\$35.53	\$10.75	\$19.22	\$0.00	\$65.50
4	80	\$40.61	\$10.75	\$19.22	\$0.00	\$70.58
5	90	\$45.68	\$10.75	\$19.22	\$0.00	\$75.65

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
OPERATING ENGINEERS LOCAL 4	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
CAISSON & UNDERPINNING BOTTOM MAN	12/01/2016	\$37.45	\$7.60	\$14.35	\$0.00	\$59.40
LABORERS - FOUNDATION AND MARINE						
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING LABORER	12/01/2016	\$36.30	\$7.60	\$14.35	\$0.00	\$58.25
LABORERS - FOUNDATION AND MARINE						
For apprentice rates see "Apprentice- LABORER"						
CAISSON & UNDERPINNING TOP MAN	12/01/2016	\$36.30	\$7.60	\$14.35	\$0.00	\$58.25
LABORERS - FOUNDATION AND MARINE						
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
LABORERS - ZONE 1	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10
For apprentice rates see "Apprentice- LABORER"						
CARPENTER	03/01/2017	\$45.81	\$9.90	\$17.00	\$0.00	\$72.71
CARPENTERS -ZONE 1 (Metro Boston)	09/01/2017	\$46.93	\$9.90	\$17.00	\$0.00	\$73.83
	03/01/2018	\$48.04	\$9.90	\$17.00	\$0.00	\$74.94
	09/01/2018	\$49.19	\$9.90	\$17.00	\$0.00	\$76.09
	03/01/2019	\$50.34	\$9.90	\$17.00	\$0.00	\$77.24

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - CARPENTER - Zone 1 Metro Boston
Effective Date - 03/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.91	\$9.90	\$1.63	\$0.00	\$34.44
2	60	\$27.49	\$9.90	\$1.63	\$0.00	\$39.02
3	70	\$32.07	\$9.90	\$12.11	\$0.00	\$54.08
4	75	\$34.36	\$9.90	\$12.11	\$0.00	\$56.37
5	80	\$36.65	\$9.90	\$13.74	\$0.00	\$60.29
6	80	\$36.65	\$9.90	\$13.74	\$0.00	\$60.29
7	90	\$41.23	\$9.90	\$15.37	\$0.00	\$66.50
8	90	\$41.23	\$9.90	\$15.37	\$0.00	\$66.50

Effective Date - 09/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.47	\$9.90	\$1.63	\$0.00	\$35.00
2	60	\$28.16	\$9.90	\$1.63	\$0.00	\$39.69
3	70	\$32.85	\$9.90	\$12.11	\$0.00	\$54.86
4	75	\$35.20	\$9.90	\$12.11	\$0.00	\$57.21
5	80	\$37.54	\$9.90	\$13.74	\$0.00	\$61.18
6	80	\$37.54	\$9.90	\$13.74	\$0.00	\$61.18
7	90	\$42.24	\$9.90	\$15.37	\$0.00	\$67.51
8	90	\$42.24	\$9.90	\$15.37	\$0.00	\$67.51

Notes:
Apprentice to Journeyworker Ratio:1:5
CEMENT MASONRY/PLASTERING
BRICKLAYERS LOCAL 3 (BOSTON)

01/01/2017	\$45.67	\$12.20	\$19.41	\$1.30	\$78.58
07/01/2017	\$46.30	\$12.20	\$19.41	\$1.30	\$79.21
01/01/2018	\$46.54	\$12.20	\$19.41	\$1.30	\$79.45
07/01/2018	\$46.79	\$12.20	\$19.41	\$1.30	\$79.70
01/01/2019	\$47.03	\$12.20	\$19.41	\$1.30	\$79.94
07/01/2019	\$47.27	\$12.20	\$19.41	\$1.30	\$80.18
01/01/2020	\$47.52	\$12.20	\$19.41	\$1.30	\$80.43

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - CEMENT MASONRY/PLASTERING - Eastern Mass (Boston)
Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.84	\$12.20	\$12.41	\$0.00	\$47.45
2	60	\$27.40	\$12.20	\$14.41	\$1.30	\$55.31
3	65	\$29.69	\$12.20	\$15.41	\$1.30	\$58.60
4	70	\$31.97	\$12.20	\$16.41	\$1.30	\$61.88
5	75	\$34.25	\$12.20	\$17.41	\$1.30	\$65.16
6	80	\$36.54	\$12.20	\$18.41	\$1.30	\$68.45
7	90	\$41.10	\$12.20	\$19.41	\$1.30	\$74.01

Effective Date - 07/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.15	\$12.20	\$12.41	\$0.00	\$47.76
2	60	\$27.78	\$12.20	\$14.41	\$1.30	\$55.69
3	65	\$30.10	\$12.20	\$15.41	\$1.30	\$59.01
4	70	\$32.41	\$12.20	\$16.41	\$1.30	\$62.32
5	75	\$34.73	\$12.20	\$17.41	\$1.30	\$65.64
6	80	\$37.04	\$12.20	\$18.41	\$1.30	\$68.95
7	90	\$41.67	\$12.20	\$19.41	\$1.30	\$74.58

Notes:

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

CHAIN SAW OPERATOR	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
LABORERS - ZONE 1	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES	12/01/2016	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
OPERATING ENGINEERS LOCAL 4	06/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
	12/01/2017	\$48.38	\$10.00	\$15.25	\$0.00	\$73.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR	12/01/2016	\$31.17	\$10.00	\$15.25	\$0.00	\$56.42
OPERATING ENGINEERS LOCAL 4	06/01/2017	\$31.86	\$10.00	\$15.25	\$0.00	\$57.11
	12/01/2017	\$32.55	\$10.00	\$15.25	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE)	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36
PAINTERS LOCAL 35 - ZONE 1						

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - PAINTER Local 35 - BRIDGES/TANKS
Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.71	\$7.85	\$0.00	\$0.00	\$33.56
2	55	\$28.28	\$7.85	\$3.66	\$0.00	\$39.79
3	60	\$30.85	\$7.85	\$3.99	\$0.00	\$42.69
4	65	\$33.42	\$7.85	\$4.32	\$0.00	\$45.59
5	70	\$35.99	\$7.85	\$14.11	\$0.00	\$57.95
6	75	\$38.56	\$7.85	\$14.44	\$0.00	\$60.85
7	80	\$41.13	\$7.85	\$14.77	\$0.00	\$63.75
8	90	\$46.27	\$7.85	\$15.44	\$0.00	\$69.56

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1
DEMO: ADZEMAN
LABORERS - ZONE 1

12/01/2016	\$36.50	\$7.60	\$14.15	\$0.00	\$58.25
06/01/2017	\$37.50	\$7.60	\$14.15	\$0.00	\$59.25
12/01/2017	\$38.35	\$7.60	\$14.15	\$0.00	\$60.10
06/01/2018	\$39.30	\$7.60	\$14.15	\$0.00	\$61.05
12/01/2018	\$40.25	\$7.60	\$14.15	\$0.00	\$62.00
06/01/2019	\$41.25	\$7.60	\$14.15	\$0.00	\$63.00
12/01/2019	\$42.25	\$7.60	\$14.15	\$0.00	\$64.00

For apprentice rates see "Apprentice- LABORER"

DEMO: BACKHOE/LOADER/HAMMER OPERATOR
LABORERS - ZONE 1

12/01/2016	\$37.50	\$7.60	\$14.15	\$0.00	\$59.25
06/01/2017	\$38.50	\$7.60	\$14.15	\$0.00	\$60.25
12/01/2017	\$39.35	\$7.60	\$14.15	\$0.00	\$61.10
06/01/2018	\$40.30	\$7.60	\$14.15	\$0.00	\$62.05
12/01/2018	\$41.25	\$7.60	\$14.15	\$0.00	\$63.00
06/01/2019	\$42.25	\$7.60	\$14.15	\$0.00	\$64.00
12/01/2019	\$43.25	\$7.60	\$14.15	\$0.00	\$65.00

For apprentice rates see "Apprentice- LABORER"

DEMO: BURNERS
LABORERS - ZONE 1

12/01/2016	\$37.25	\$7.60	\$14.15	\$0.00	\$59.00
06/01/2017	\$38.25	\$7.60	\$14.15	\$0.00	\$60.00
12/01/2017	\$39.10	\$7.60	\$14.15	\$0.00	\$60.85
06/01/2018	\$40.05	\$7.60	\$14.15	\$0.00	\$61.80
12/01/2018	\$41.00	\$7.60	\$14.15	\$0.00	\$62.75
06/01/2019	\$42.00	\$7.60	\$14.15	\$0.00	\$63.75
12/01/2019	\$43.00	\$7.60	\$14.15	\$0.00	\$64.75

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DEMO: CONCRETE CUTTER/SAWYER <i>LABORERS - ZONE 1</i>	12/01/2016	\$37.50	\$7.60	\$14.15	\$0.00	\$59.25
	06/01/2017	\$38.50	\$7.60	\$14.15	\$0.00	\$60.25
	12/01/2017	\$39.35	\$7.60	\$14.15	\$0.00	\$61.10
	06/01/2018	\$40.30	\$7.60	\$14.15	\$0.00	\$62.05
	12/01/2018	\$41.25	\$7.60	\$14.15	\$0.00	\$63.00
	06/01/2019	\$42.25	\$7.60	\$14.15	\$0.00	\$64.00
	12/01/2019	\$43.25	\$7.60	\$14.15	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2016	\$37.25	\$7.60	\$14.15	\$0.00	\$59.00
	06/01/2017	\$38.25	\$7.60	\$14.15	\$0.00	\$60.00
	12/01/2017	\$39.10	\$7.60	\$14.15	\$0.00	\$60.85
	06/01/2018	\$40.05	\$7.60	\$14.15	\$0.00	\$61.80
	12/01/2018	\$41.00	\$7.60	\$14.15	\$0.00	\$62.75
	06/01/2019	\$42.00	\$7.60	\$14.15	\$0.00	\$63.75
	12/01/2019	\$43.00	\$7.60	\$14.15	\$0.00	\$64.75
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER <i>LABORERS - ZONE 1</i>	12/01/2016	\$36.50	\$7.60	\$14.15	\$0.00	\$58.25
	06/01/2017	\$37.50	\$7.60	\$14.15	\$0.00	\$59.25
	12/01/2017	\$38.35	\$7.60	\$14.15	\$0.00	\$60.10
	06/01/2018	\$39.30	\$7.60	\$14.15	\$0.00	\$61.05
	12/01/2018	\$40.25	\$7.60	\$14.15	\$0.00	\$62.00
	06/01/2019	\$41.25	\$7.60	\$14.15	\$0.00	\$63.00
	12/01/2019	\$42.25	\$7.60	\$14.15	\$0.00	\$64.00
For apprentice rates see "Apprentice- LABORER"						
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$58.86	\$9.80	\$19.23	\$0.00	\$87.89
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$63.06	\$9.80	\$19.23	\$0.00	\$92.09
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$88.23	\$9.80	\$19.23	\$0.00	\$117.26
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>ELECTRICIANS LOCAL 103</i>	03/01/2017	\$48.33	\$13.00	\$17.45	\$0.00	\$78.78
	09/01/2017	\$49.28	\$13.00	\$17.48	\$0.00	\$79.76
	03/01/2018	\$50.48	\$13.00	\$17.51	\$0.00	\$80.99
	09/01/2018	\$51.67	\$13.00	\$17.55	\$0.00	\$82.22
	03/01/2019	\$52.87	\$13.00	\$17.59	\$0.00	\$83.46
For apprentice rates see "Apprentice- ELECTRICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ELECTRICIAN	03/01/2017	\$48.33	\$13.00	\$17.45	\$0.00	\$78.78
<i>ELECTRICIANS LOCAL 103</i>	09/01/2017	\$49.28	\$13.00	\$17.48	\$0.00	\$79.76
	03/01/2018	\$50.48	\$13.00	\$17.51	\$0.00	\$80.99
	09/01/2018	\$51.67	\$13.00	\$17.55	\$0.00	\$82.22
	03/01/2019	\$52.87	\$13.00	\$17.59	\$0.00	\$83.46

Apprentice - *ELECTRICIAN - Local 103*

Effective Date - 03/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.33	\$13.00	\$0.58	\$0.00	\$32.91
2	40	\$19.33	\$13.00	\$0.58	\$0.00	\$32.91
3	45	\$21.75	\$13.00	\$13.37	\$0.00	\$48.12
4	45	\$21.75	\$13.00	\$13.37	\$0.00	\$48.12
5	50	\$24.17	\$13.00	\$13.75	\$0.00	\$50.92
6	55	\$26.58	\$13.00	\$14.11	\$0.00	\$53.69
7	60	\$29.00	\$13.00	\$14.48	\$0.00	\$56.48
8	65	\$31.41	\$13.00	\$14.85	\$0.00	\$59.26
9	70	\$33.83	\$13.00	\$15.22	\$0.00	\$62.05
10	75	\$36.25	\$13.00	\$15.60	\$0.00	\$64.85

Effective Date - 09/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$19.71	\$13.00	\$0.59	\$0.00	\$33.30
2	40	\$19.71	\$13.00	\$0.59	\$0.00	\$33.30
3	45	\$22.18	\$13.00	\$13.39	\$0.00	\$48.57
4	45	\$22.18	\$13.00	\$13.39	\$0.00	\$48.57
5	50	\$24.64	\$13.00	\$13.76	\$0.00	\$51.40
6	55	\$27.10	\$13.00	\$14.12	\$0.00	\$54.22
7	60	\$29.57	\$13.00	\$14.50	\$0.00	\$57.07
8	65	\$32.03	\$13.00	\$14.87	\$0.00	\$59.90
9	70	\$34.50	\$13.00	\$15.25	\$0.00	\$62.75
10	75	\$36.96	\$13.00	\$15.62	\$0.00	\$65.58

Notes: :

App Prior 1/1/03; 30/35/40/45/50/55/65/70/75/80

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2017	\$55.86	\$15.28	\$15.71	\$0.00	\$86.85
<i>ELEVATOR CONSTRUCTORS LOCAL 4</i>						

Apprentice - ELEVATOR CONSTRUCTOR - Local 4

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$27.93	\$15.28	\$0.00	\$0.00	\$43.21
2	55	\$30.72	\$15.28	\$15.71	\$0.00	\$61.71
3	65	\$36.31	\$15.28	\$15.71	\$0.00	\$67.30
4	70	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
5	80	\$44.69	\$15.28	\$15.71	\$0.00	\$75.68

Notes:

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER <i>ELEVATOR CONSTRUCTORS LOCAL 4</i>	01/01/2017	\$39.10	\$15.28	\$15.71	\$0.00	\$70.09
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR <i>LABORERS - ZONE 1</i>	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10
For apprentice rates see "Apprentice- LABORER"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2017	\$42.15	\$10.00	\$15.25	\$0.00	\$67.40
	11/01/2017	\$42.88	\$10.00	\$15.25	\$0.00	\$68.13
	05/01/2018	\$43.59	\$10.00	\$15.25	\$0.00	\$68.84
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2017	\$43.61	\$10.00	\$15.25	\$0.00	\$68.86
	11/01/2017	\$44.34	\$10.00	\$15.25	\$0.00	\$69.59
	05/01/2018	\$45.06	\$10.00	\$15.25	\$0.00	\$70.31
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	05/01/2017	\$22.41	\$10.00	\$15.25	\$0.00	\$47.66
	11/01/2017	\$22.83	\$10.00	\$15.25	\$0.00	\$48.08
	05/01/2018	\$23.26	\$10.00	\$15.25	\$0.00	\$48.51
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 103</i>	03/01/2017	\$48.33	\$13.00	\$17.45	\$0.00	\$78.78
	09/01/2017	\$49.28	\$13.00	\$17.48	\$0.00	\$79.76
	03/01/2018	\$50.48	\$13.00	\$17.51	\$0.00	\$80.99
	09/01/2018	\$51.67	\$13.00	\$17.55	\$0.00	\$82.22
	03/01/2019	\$52.87	\$13.00	\$17.59	\$0.00	\$83.46
For apprentice rates see "Apprentice- ELECTRICIAN"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIRE ALARM REPAIR / MAINTENANCE / COMMISSIONING <i>ELECTRICIANS</i>	03/01/2017	\$36.25	\$13.00	\$15.60	\$0.00	\$64.85
<i>LOCAL 103</i>	09/01/2017	\$36.96	\$13.00	\$15.62	\$0.00	\$65.58
	03/01/2018	\$37.86	\$13.00	\$15.65	\$0.00	\$66.51
	09/01/2018	\$38.75	\$13.00	\$15.67	\$0.00	\$67.42
	03/01/2019	\$39.65	\$13.00	\$15.70	\$0.00	\$68.35
For apprentice rates see "Apprentice- TELECOMMUNICATIONS TECHNICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$37.65	\$10.00	\$15.25	\$0.00	\$62.90
	06/01/2017	\$38.49	\$10.00	\$15.25	\$0.00	\$63.74
	12/01/2017	\$39.32	\$10.00	\$15.25	\$0.00	\$64.57
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER <i>LABORERS - ZONE 1</i>	12/01/2016	\$20.50	\$7.60	\$14.15	\$0.00	\$42.25
For apprentice rates see "Apprentice- LABORER"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE 1</i>	03/01/2016	\$42.13	\$9.80	\$17.62	\$0.00	\$69.55

Apprentice - FLOORCOVERER - Local 2168 Zone 1

Effective Date - 03/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.07	\$9.80	\$1.79	\$0.00	\$32.66
2	55	\$23.17	\$9.80	\$1.79	\$0.00	\$34.76
3	60	\$25.28	\$9.80	\$12.25	\$0.00	\$47.33
4	65	\$27.38	\$9.80	\$12.25	\$0.00	\$49.43
5	70	\$29.49	\$9.80	\$14.04	\$0.00	\$53.33
6	75	\$31.60	\$9.80	\$14.04	\$0.00	\$55.44
7	80	\$33.70	\$9.80	\$15.83	\$0.00	\$59.33
8	85	\$35.81	\$9.80	\$15.83	\$0.00	\$61.44

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GENERATOR/LIGHTING PLANT/HEATERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$31.17	\$10.00	\$15.25	\$0.00	\$56.42
	06/01/2017	\$31.86	\$10.00	\$15.25	\$0.00	\$57.11
	12/01/2017	\$32.55	\$10.00	\$15.25	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 1)</i>	01/01/2017	\$46.70	\$7.85	\$16.10	\$0.00	\$70.65

Apprentice - *GLAZIER - Local 35 Zone 1*
Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.35	\$7.85	\$0.00	\$0.00	\$31.20
2	55	\$25.69	\$7.85	\$3.66	\$0.00	\$37.20
3	60	\$28.02	\$7.85	\$3.99	\$0.00	\$39.86
4	65	\$30.36	\$7.85	\$4.32	\$0.00	\$42.53
5	70	\$32.69	\$7.85	\$14.11	\$0.00	\$54.65
6	75	\$35.03	\$7.85	\$14.44	\$0.00	\$57.32
7	80	\$37.36	\$7.85	\$14.77	\$0.00	\$59.98
8	90	\$42.03	\$7.85	\$15.44	\$0.00	\$65.32

Notes:
 Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
OPERATING ENGINEERS LOCAL 4	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - OPERATING ENGINEERS - Local 4
Effective Date - 12/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$24.96	\$10.00	\$0.00	\$0.00	\$34.96
2	60	\$27.23	\$10.00	\$15.25	\$0.00	\$52.48
3	65	\$29.50	\$10.00	\$15.25	\$0.00	\$54.75
4	70	\$31.77	\$10.00	\$15.25	\$0.00	\$57.02
5	75	\$34.04	\$10.00	\$15.25	\$0.00	\$59.29
6	80	\$36.30	\$10.00	\$15.25	\$0.00	\$61.55
7	85	\$38.57	\$10.00	\$15.25	\$0.00	\$63.82
8	90	\$40.84	\$10.00	\$15.25	\$0.00	\$66.09

Effective Date - 06/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$25.51	\$10.00	\$0.00	\$0.00	\$35.51
2	60	\$27.83	\$10.00	\$15.25	\$0.00	\$53.08
3	65	\$30.15	\$10.00	\$15.25	\$0.00	\$55.40
4	70	\$32.47	\$10.00	\$15.25	\$0.00	\$57.72
5	75	\$34.79	\$10.00	\$15.25	\$0.00	\$60.04
6	80	\$37.10	\$10.00	\$15.25	\$0.00	\$62.35
7	85	\$39.42	\$10.00	\$15.25	\$0.00	\$64.67
8	90	\$41.74	\$10.00	\$15.25	\$0.00	\$66.99

Notes:
Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2017	\$43.72	\$11.45	\$23.07	\$2.35	\$80.59
	08/01/2017	\$44.82	\$11.45	\$23.07	\$2.35	\$81.69
	02/01/2018	\$45.97	\$11.45	\$23.07	\$2.35	\$82.84
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (ELECTRICAL CONTROLS) ELECTRICIANS LOCAL 103	03/01/2017	\$48.33	\$13.00	\$17.45	\$0.00	\$78.78
	09/01/2017	\$49.28	\$13.00	\$17.48	\$0.00	\$79.76
	03/01/2018	\$50.48	\$13.00	\$17.51	\$0.00	\$80.99
	09/01/2018	\$51.67	\$13.00	\$17.55	\$0.00	\$82.22
	03/01/2019	\$52.87	\$13.00	\$17.59	\$0.00	\$83.46
For apprentice rates see "Apprentice- ELECTRICIAN"						
HVAC (TESTING AND BALANCING - AIR) SHEETMETAL WORKERS LOCAL 17 - A	02/01/2017	\$43.72	\$11.45	\$23.07	\$2.35	\$80.59
	08/01/2017	\$44.82	\$11.45	\$23.07	\$2.35	\$81.69
	02/01/2018	\$45.97	\$11.45	\$23.07	\$2.35	\$82.84
For apprentice rates see "Apprentice- SHEET METAL WORKER"						
HVAC (TESTING AND BALANCING -WATER) PIPEFITTERS LOCAL 537	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC PIPEFITTERS LOCAL 537	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS	12/01/2016	\$37.10	\$7.60	\$14.15	\$0.00	\$58.85
LABORERS - ZONE 1	06/01/2017	\$38.10	\$7.60	\$14.15	\$0.00	\$59.85
	12/01/2017	\$38.95	\$7.60	\$14.15	\$0.00	\$60.70
	06/01/2018	\$39.90	\$7.60	\$14.15	\$0.00	\$61.65
	12/01/2018	\$40.85	\$7.60	\$14.15	\$0.00	\$62.60
	06/01/2019	\$41.85	\$7.60	\$14.15	\$0.00	\$63.60
	12/01/2019	\$42.85	\$7.60	\$14.15	\$0.00	\$64.60
For apprentice rates see "Apprentice- LABORER"						

INSULATOR (PIPES & TANKS)	09/01/2016	\$45.09	\$11.75	\$14.20	\$0.00	\$71.04
HEAT & FROST INSULATORS LOCAL 6 (BOSTON)	09/01/2017	\$47.09	\$11.75	\$14.20	\$0.00	\$73.04
	09/01/2018	\$49.34	\$11.75	\$14.20	\$0.00	\$75.29
	09/01/2019	\$51.84	\$11.75	\$14.20	\$0.00	\$77.79

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Boston

Effective Date - 09/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.55	\$11.75	\$10.45	\$0.00	\$44.75
2	60	\$27.05	\$11.75	\$11.20	\$0.00	\$50.00
3	70	\$31.56	\$11.75	\$11.95	\$0.00	\$55.26
4	80	\$36.07	\$11.75	\$12.70	\$0.00	\$60.52

Effective Date - 09/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.55	\$11.75	\$10.45	\$0.00	\$45.75
2	60	\$28.25	\$11.75	\$11.20	\$0.00	\$51.20
3	70	\$32.96	\$11.75	\$11.95	\$0.00	\$56.66
4	80	\$37.67	\$11.75	\$12.70	\$0.00	\$62.12

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER	03/16/2017	\$44.65	\$7.80	\$20.85	\$0.00	\$73.30
IRONWORKERS LOCAL 7 (BOSTON AREA)						

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - IRONWORKER - Local 7 Boston
Effective Date - 03/16/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.79	\$7.80	\$20.85	\$0.00	\$55.44
2	70	\$31.26	\$7.80	\$20.85	\$0.00	\$59.91
3	75	\$33.49	\$7.80	\$20.85	\$0.00	\$62.14
4	80	\$35.72	\$7.80	\$20.85	\$0.00	\$64.37
5	85	\$37.95	\$7.80	\$20.85	\$0.00	\$66.60
6	90	\$40.19	\$7.80	\$20.85	\$0.00	\$68.84

Notes:

** Structural 1:6; Ornamental 1:4

Apprentice to Journeyworker Ratio:**
JACKHAMMER & PAVING BREAKER OPERATOR

LABORERS - ZONE 1

12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10

For apprentice rates see "Apprentice- LABORER"

LABORER

LABORERS - ZONE 1

12/01/2016	\$36.35	\$7.60	\$14.15	\$0.00	\$58.10
06/01/2017	\$37.35	\$7.60	\$14.15	\$0.00	\$59.10
12/01/2017	\$38.20	\$7.60	\$14.15	\$0.00	\$59.95
06/01/2018	\$39.15	\$7.60	\$14.15	\$0.00	\$60.90
12/01/2018	\$40.10	\$7.60	\$14.15	\$0.00	\$61.85
06/01/2019	\$41.10	\$7.60	\$14.15	\$0.00	\$62.85
12/01/2019	\$42.10	\$7.60	\$14.15	\$0.00	\$63.85

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - LABORER - Zone 1
Effective Date - 12/01/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$21.81	\$7.60	\$14.15	\$0.00	\$43.56
2	70	\$25.45	\$7.60	\$14.15	\$0.00	\$47.20
3	80	\$29.08	\$7.60	\$14.15	\$0.00	\$50.83
4	90	\$32.72	\$7.60	\$14.15	\$0.00	\$54.47

Effective Date - 06/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.41	\$7.60	\$14.15	\$0.00	\$44.16
2	70	\$26.15	\$7.60	\$14.15	\$0.00	\$47.90
3	80	\$29.88	\$7.60	\$14.15	\$0.00	\$51.63
4	90	\$33.62	\$7.60	\$14.15	\$0.00	\$55.37

Notes:
Apprentice to Journeyworker Ratio:1:5
LABORER: CARPENTER TENDER
LABORERS - ZONE 1

12/01/2016	\$36.35	\$7.60	\$14.15	\$0.00	\$58.10
06/01/2017	\$37.35	\$7.60	\$14.15	\$0.00	\$59.10
12/01/2017	\$38.20	\$7.60	\$14.15	\$0.00	\$59.95
06/01/2018	\$39.15	\$7.60	\$14.15	\$0.00	\$60.90
12/01/2018	\$40.10	\$7.60	\$14.15	\$0.00	\$61.85
06/01/2019	\$41.10	\$7.60	\$14.15	\$0.00	\$62.85
12/01/2019	\$42.10	\$7.60	\$14.15	\$0.00	\$63.85

For apprentice rates see "Apprentice- LABORER"

LABORER: CEMENT FINISHER TENDER
LABORERS - ZONE 1

12/01/2016	\$36.35	\$7.60	\$14.15	\$0.00	\$58.10
06/01/2017	\$37.35	\$7.60	\$14.15	\$0.00	\$59.10
12/01/2017	\$38.20	\$7.60	\$14.15	\$0.00	\$59.95
06/01/2018	\$39.15	\$7.60	\$14.15	\$0.00	\$60.90
12/01/2018	\$40.10	\$7.60	\$14.15	\$0.00	\$61.85
06/01/2019	\$41.10	\$7.60	\$14.15	\$0.00	\$62.85
12/01/2019	\$42.10	\$7.60	\$14.15	\$0.00	\$63.85

For apprentice rates see "Apprentice- LABORER"

LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER
LABORERS - ZONE 1

12/01/2016	\$36.50	\$7.60	\$14.15	\$0.00	\$58.25
06/01/2017	\$37.50	\$7.60	\$14.15	\$0.00	\$59.25
12/01/2017	\$38.35	\$7.60	\$14.15	\$0.00	\$60.10
06/01/2018	\$39.30	\$7.60	\$14.15	\$0.00	\$61.05
12/01/2018	\$40.25	\$7.60	\$14.15	\$0.00	\$62.00
06/01/2019	\$41.25	\$7.60	\$14.15	\$0.00	\$63.00
12/01/2019	\$42.28	\$7.60	\$14.15	\$0.00	\$64.03

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: MASON TENDER <i>LABORERS - ZONE 1</i>	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10
For apprentice rates see "Apprentice- LABORER"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 1</i>	12/01/2016	\$36.35	\$7.60	\$14.15	\$0.00	\$58.10
	06/01/2017	\$37.35	\$7.60	\$14.15	\$0.00	\$59.10
	12/01/2017	\$38.20	\$7.60	\$14.15	\$0.00	\$59.95
	06/01/2018	\$39.15	\$7.60	\$14.15	\$0.00	\$60.90
	12/01/2018	\$40.10	\$7.60	\$14.15	\$0.00	\$61.85
	06/01/2019	\$41.10	\$7.60	\$14.15	\$0.00	\$62.85
	12/01/2019	\$42.10	\$7.60	\$14.15	\$0.00	\$63.85
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 1</i>	12/01/2016	\$36.35	\$7.60	\$14.15	\$0.00	\$58.10
	06/01/2017	\$37.35	\$7.60	\$14.15	\$0.00	\$59.10
	12/01/2017	\$38.20	\$7.60	\$14.15	\$0.00	\$59.95
	06/01/2018	\$39.15	\$7.60	\$14.15	\$0.00	\$60.90
	12/01/2018	\$40.10	\$7.60	\$14.15	\$0.00	\$61.85
	06/01/2019	\$41.10	\$7.60	\$14.15	\$0.00	\$62.85
	12/01/2019	\$42.10	\$7.60	\$14.15	\$0.00	\$63.85
This classification applies to all tree work associated with the removal of standing trees, and trimming and removal of branches and limbs when the work is not done for a utility company for the purpose of operation, maintenance or repair of utility company equipment. For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10
For apprentice rates see "Apprentice- LABORER"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2017	\$38.78	\$10.75	\$17.67	\$0.00	\$67.20

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
----------------	----------------	-----------	--------	---------	------------------------------	------------

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$19.39	\$10.75	\$17.67	\$0.00	\$47.81
2	60	\$23.27	\$10.75	\$17.67	\$0.00	\$51.69
3	70	\$27.15	\$10.75	\$17.67	\$0.00	\$55.57
4	80	\$31.02	\$10.75	\$17.67	\$0.00	\$59.44
5	90	\$34.90	\$10.75	\$17.67	\$0.00	\$63.32

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS,TILELAYERS & TERRAZZO MECH BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2017	\$50.80	\$10.75	\$19.22	\$0.00	\$80.77
---	------------	---------	---------	---------	--------	---------

Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 02/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.40	\$10.75	\$19.22	\$0.00	\$55.37
2	60	\$30.48	\$10.75	\$19.22	\$0.00	\$60.45
3	70	\$35.56	\$10.75	\$19.22	\$0.00	\$65.53
4	80	\$40.64	\$10.75	\$19.22	\$0.00	\$70.61
5	90	\$45.72	\$10.75	\$19.22	\$0.00	\$75.69

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES) OPERATING ENGINEERS LOCAL 4	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE OPERATING ENGINEERS LOCAL 4	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 1) MILLWRIGHTS LOCAL 1121 - Zone 1	04/01/2017	\$38.62	\$9.90	\$18.50	\$0.00	\$67.02
	10/01/2017	\$39.52	\$9.90	\$18.50	\$0.00	\$67.92
	04/01/2018	\$40.42	\$9.90	\$18.50	\$0.00	\$68.82
	10/01/2018	\$41.32	\$9.90	\$18.50	\$0.00	\$69.72
	04/01/2019	\$42.22	\$9.90	\$18.50	\$0.00	\$70.62

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
----------------	----------------	-----------	--------	---------	------------------------------	------------

Apprentice - MILLWRIGHT - Local 1121 Zone 1

Effective Date - 04/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$21.24	\$9.90	\$5.31	\$0.00	\$36.45
2	65	\$25.10	\$9.90	\$15.13	\$0.00	\$50.13
3	75	\$28.97	\$9.90	\$16.10	\$0.00	\$54.97
4	85	\$32.83	\$9.90	\$17.06	\$0.00	\$59.79

Effective Date - 10/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$21.74	\$9.90	\$5.31	\$0.00	\$36.95
2	65	\$25.69	\$9.90	\$15.13	\$0.00	\$50.72
3	75	\$29.64	\$9.90	\$16.10	\$0.00	\$55.64
4	85	\$33.59	\$9.90	\$17.06	\$0.00	\$60.55

Notes:

Steps are 2,000 hours

Apprentice to Journeyworker Ratio:1:5

MORTAR MIXER LABORERS - ZONE 1	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2016	\$22.96	\$10.00	\$15.25	\$0.00	\$48.21
	06/01/2017	\$23.47	\$10.00	\$15.25	\$0.00	\$48.72
	12/01/2017	\$23.99	\$10.00	\$15.25	\$0.00	\$49.24
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2016	\$26.94	\$10.00	\$15.25	\$0.00	\$52.19
	06/01/2017	\$27.54	\$10.00	\$15.25	\$0.00	\$52.79
	12/01/2017	\$28.15	\$10.00	\$15.25	\$0.00	\$53.40
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS II OPERATING ENGINEERS LOCAL 4	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 - ZONE 1	01/01/2017	\$51.41	\$7.85	\$16.10	\$0.00	\$75.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS**Effective Date -** 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.71	\$7.85	\$0.00	\$0.00	\$33.56
2	55	\$28.28	\$7.85	\$3.66	\$0.00	\$39.79
3	60	\$30.85	\$7.85	\$3.99	\$0.00	\$42.69
4	65	\$33.42	\$7.85	\$4.32	\$0.00	\$45.59
5	70	\$35.99	\$7.85	\$14.11	\$0.00	\$57.95
6	75	\$38.56	\$7.85	\$14.44	\$0.00	\$60.85
7	80	\$41.13	\$7.85	\$14.77	\$0.00	\$63.75
8	90	\$46.27	\$7.85	\$15.44	\$0.00	\$69.56

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2017	\$48.10	\$7.85	\$16.10	\$0.00	\$72.05
-------------------------------------	------------	---------	--------	---------	--------	---------

* If 30% or more of surfaces to be painted are new construction,

NEW paint rate shall be used. *PAINTERS LOCAL 35 - ZONE 1***Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - New****Effective Date -** 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.05	\$7.85	\$0.00	\$0.00	\$31.90
2	55	\$26.46	\$7.85	\$3.66	\$0.00	\$37.97
3	60	\$28.86	\$7.85	\$3.99	\$0.00	\$40.70
4	65	\$31.27	\$7.85	\$4.32	\$0.00	\$43.44
5	70	\$33.67	\$7.85	\$14.11	\$0.00	\$55.63
6	75	\$36.08	\$7.85	\$14.44	\$0.00	\$58.37
7	80	\$38.48	\$7.85	\$14.77	\$0.00	\$61.10
8	90	\$43.29	\$7.85	\$15.44	\$0.00	\$66.58

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2017	\$46.16	\$7.85	\$16.10	\$0.00	\$70.11
---------------------------------------	------------	---------	--------	---------	--------	---------

PAINTERS LOCAL 35 - ZONE 1

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - PAINTER Local 35 Zone 1 - Spray/Sandblast - Repaint
Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.08	\$7.85	\$0.00	\$0.00	\$30.93
2	55	\$25.39	\$7.85	\$3.66	\$0.00	\$36.90
3	60	\$27.70	\$7.85	\$3.99	\$0.00	\$39.54
4	65	\$30.00	\$7.85	\$4.32	\$0.00	\$42.17
5	70	\$32.31	\$7.85	\$14.11	\$0.00	\$54.27
6	75	\$34.62	\$7.85	\$14.44	\$0.00	\$56.91
7	80	\$36.93	\$7.85	\$14.77	\$0.00	\$59.55
8	90	\$41.54	\$7.85	\$15.44	\$0.00	\$64.83

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (TRAFFIC MARKINGS)

LABORERS - ZONE 1

12/01/2016	\$36.35	\$7.60	\$14.15	\$0.00	\$58.10
06/01/2017	\$37.35	\$7.60	\$14.15	\$0.00	\$59.10
12/01/2017	\$38.20	\$7.60	\$14.15	\$0.00	\$59.95
06/01/2018	\$39.15	\$7.60	\$14.15	\$0.00	\$60.90
12/01/2018	\$40.10	\$7.60	\$14.15	\$0.00	\$61.85
06/01/2019	\$41.10	\$7.60	\$14.15	\$0.00	\$62.85
12/01/2019	\$42.10	\$7.60	\$14.15	\$0.00	\$63.85

For Apprentice rates see "Apprentice- LABORER"

PAINTER / TAPER (BRUSH, NEW) *

 * If 30% or more of surfaces to be painted are new construction,
NEW paint rate shall be used. PAINTERS LOCAL 35 - ZONE 1

01/01/2017	\$46.70	\$7.85	\$16.10	\$0.00	\$70.65
------------	---------	--------	---------	--------	---------

Apprentice - PAINTER - Local 35 Zone 1 - BRUSH NEW
Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.35	\$7.85	\$0.00	\$0.00	\$31.20
2	55	\$25.69	\$7.85	\$3.66	\$0.00	\$37.20
3	60	\$28.02	\$7.85	\$3.99	\$0.00	\$39.86
4	65	\$30.36	\$7.85	\$4.32	\$0.00	\$42.53
5	70	\$32.69	\$7.85	\$14.11	\$0.00	\$54.65
6	75	\$35.03	\$7.85	\$14.44	\$0.00	\$57.32
7	80	\$37.36	\$7.85	\$14.77	\$0.00	\$59.98
8	90	\$42.03	\$7.85	\$15.44	\$0.00	\$65.32

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PAINTER / TAPER (BRUSH, REPAINT) <i>PAINTERS LOCAL 35 - ZONE 1</i>	01/01/2017	\$44.76	\$7.85	\$16.10	\$0.00	\$68.71

Apprentice - PAINTER Local 35 Zone 1 - BRUSH REPAINT

Effective Date - 01/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.38	\$7.85	\$0.00	\$0.00	\$30.23
2	55	\$24.62	\$7.85	\$3.66	\$0.00	\$36.13
3	60	\$26.86	\$7.85	\$3.99	\$0.00	\$38.70
4	65	\$29.09	\$7.85	\$4.32	\$0.00	\$41.26
5	70	\$31.33	\$7.85	\$14.11	\$0.00	\$53.29
6	75	\$33.57	\$7.85	\$14.44	\$0.00	\$55.86
7	80	\$35.81	\$7.85	\$14.77	\$0.00	\$58.43
8	90	\$40.28	\$7.85	\$15.44	\$0.00	\$63.57

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PANEL & PICKUP TRUCKS DRIVER <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$33.08	\$10.91	\$10.89	\$0.00	\$54.88
--	------------	---------	---------	---------	--------	---------

PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
---	------------	---------	--------	---------	--------	---------

For apprentice rates see "Apprentice- PILE DRIVER"

PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 1)</i>	08/01/2015	\$42.04	\$9.80	\$19.23	\$0.00	\$71.07
---	------------	---------	--------	---------	--------	---------

Apprentice - PILE DRIVER - Local 56 Zone 1

Effective Date - 08/01/2015

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.02	\$9.80	\$19.23	\$0.00	\$50.05
2	60	\$25.22	\$9.80	\$19.23	\$0.00	\$54.25
3	70	\$29.43	\$9.80	\$19.23	\$0.00	\$58.46
4	75	\$31.53	\$9.80	\$19.23	\$0.00	\$60.56
5	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
6	80	\$33.63	\$9.80	\$19.23	\$0.00	\$62.66
7	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87
8	90	\$37.84	\$9.80	\$19.23	\$0.00	\$66.87

Notes:

Apprentice to Journeyworker Ratio:1:3

PIPEFITTER & STEAMFITTER <i>PIPEFITTERS LOCAL 537</i>	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03
--	------------	---------	--------	---------	--------	---------

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
----------------	----------------	-----------	--------	---------	------------------------------	------------

Apprentice - PIPEFITTER - Local 537

Effective Date - 03/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$20.48	\$9.70	\$7.50	\$0.00	\$37.68
2	45	\$23.04	\$9.70	\$18.14	\$0.00	\$50.88
3	60	\$30.71	\$9.70	\$18.14	\$0.00	\$58.55
4	70	\$35.83	\$9.70	\$18.14	\$0.00	\$63.67
5	80	\$40.95	\$9.70	\$18.14	\$0.00	\$68.79

Notes:

** 1:3; 3:15; 1:10 thereafter / Steps are 1 yr.

Refrig/AC Mechanic **1:1;1:2;2:4;3:6;4:8;5:10;6:12;7:14;8:17;9:20;10:23(Max)

Apprentice to Journeyworker Ratio:**

PIPELAYER	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
LABORERS - ZONE 1	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10

For apprentice rates see "Apprentice- LABORER"

PLUMBERS & GASFITTERS	03/01/2017	\$52.69	\$11.32	\$15.46	\$0.00	\$79.47
PLUMBERS & GASFITTERS LOCAL 12						

Apprentice - PLUMBER/GASFITTER - Local 12

Effective Date - 03/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$18.44	\$11.32	\$5.74	\$0.00	\$35.50
2	40	\$21.08	\$11.32	\$6.49	\$0.00	\$38.89
3	55	\$28.98	\$11.32	\$8.73	\$0.00	\$49.03
4	65	\$34.25	\$11.32	\$10.23	\$0.00	\$55.80
5	75	\$39.52	\$11.32	\$11.72	\$0.00	\$62.56

Notes:

** 1:2; 2:6; 3:10; 4:14; 5:19/Steps are 1 yr

Step4 with lic\$58.50 Step5 with lic\$65.36

Apprentice to Journeyworker Ratio:**

PNEUMATIC CONTROLS (TEMP.)	03/01/2017	\$51.19	\$9.70	\$18.14	\$0.00	\$79.03
PIPEFITTERS LOCAL 537						

For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PNEUMATIC DRILL/TOOL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10
For apprentice rates see "Apprentice- LABORER"						
POWDERMAN & BLASTER <i>LABORERS - ZONE 1</i>	12/01/2016	\$37.35	\$7.60	\$14.15	\$0.00	\$59.10
	06/01/2017	\$38.35	\$7.60	\$14.15	\$0.00	\$60.10
	12/01/2017	\$39.20	\$7.60	\$14.15	\$0.00	\$60.95
	06/01/2018	\$40.15	\$7.60	\$14.15	\$0.00	\$61.90
	12/01/2018	\$41.10	\$7.60	\$14.15	\$0.00	\$62.85
	06/01/2019	\$42.10	\$7.60	\$14.15	\$0.00	\$63.85
	12/01/2019	\$43.10	\$7.60	\$14.15	\$0.00	\$64.85
For apprentice rates see "Apprentice- LABORER"						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$31.17	\$10.00	\$15.25	\$0.00	\$56.42
	06/01/2017	\$31.86	\$10.00	\$15.25	\$0.00	\$57.11
	12/01/2017	\$32.55	\$10.00	\$15.25	\$0.00	\$57.80
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY MIX CONCRETE DRIVERS after 4/30/10 (Drivers Hired After 4/30/2010) <i>TEAMSTERS LOCAL 25a</i>	05/01/2017	\$28.18	\$8.23	\$9.72	\$0.00	\$46.13
	07/01/2017	\$28.18	\$8.48	\$9.72	\$0.00	\$46.38
READY-MIX CONCRETE DRIVER <i>TEAMSTERS LOCAL 25a</i>	05/01/2017	\$31.44	\$8.23	\$9.72	\$0.00	\$49.39
	07/01/2017	\$31.44	\$8.48	\$9.72	\$0.00	\$49.64
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RESIDENTIAL WOOD FRAME (All Other Work) <i>CARPENTERS -ZONE 1 (Residential Wood)</i>	06/01/2016	\$43.92	\$9.80	\$16.82	\$0.00	\$70.54
RESIDENTIAL WOOD FRAME CARPENTER ** ** The Residential Wood Frame Carpenter classification applies only to the construction of new, wood frame residences that do not exceed four stories including the basement. <i>CARPENTERS -ZONE 1 (Residential Wood)</i>	04/01/2017	\$31.06	\$7.07	\$7.18	\$0.00	\$45.31
	10/01/2017	\$31.75	\$7.07	\$7.18	\$0.00	\$46.00
	04/01/2018	\$32.22	\$7.07	\$7.18	\$0.00	\$46.47
	10/01/2018	\$32.69	\$7.07	\$7.18	\$0.00	\$46.94
	04/01/2019	\$33.17	\$7.07	\$7.18	\$0.00	\$47.42
	10/01/2019	\$33.65	\$7.07	\$7.18	\$0.00	\$47.90
As of 9/1/09 Carpentry work on wood-frame residential WEATHERIZATION projects shall be paid the RESIDENTIAL WOOD FRAME CARPENTER rate.						

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - CARPENTER (Residential Wood Frame) - Zone 1
Effective Date - 04/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$18.64	\$7.07	\$0.00	\$0.00	\$25.71
2	60	\$18.64	\$7.07	\$0.00	\$0.00	\$25.71
3	65	\$20.19	\$7.07	\$7.18	\$0.00	\$34.44
4	70	\$21.74	\$7.07	\$7.18	\$0.00	\$35.99
5	75	\$23.30	\$7.07	\$7.18	\$0.00	\$37.55
6	80	\$24.85	\$7.07	\$7.18	\$0.00	\$39.10
7	85	\$26.40	\$7.07	\$7.18	\$0.00	\$40.65
8	90	\$27.95	\$7.07	\$7.18	\$0.00	\$42.20

Effective Date - 10/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$19.05	\$7.07	\$0.00	\$0.00	\$26.12
2	60	\$19.05	\$7.07	\$0.00	\$0.00	\$26.12
3	65	\$20.64	\$7.07	\$7.18	\$0.00	\$34.89
4	70	\$22.23	\$7.07	\$7.18	\$0.00	\$36.48
5	75	\$23.81	\$7.07	\$7.18	\$0.00	\$38.06
6	80	\$25.40	\$7.07	\$7.18	\$0.00	\$39.65
7	85	\$26.99	\$7.07	\$7.18	\$0.00	\$41.24
8	90	\$28.58	\$7.07	\$7.18	\$0.00	\$42.83

Notes:
Apprentice to Journeyworker Ratio:1:5
RIDE-ON MOTORIZED BUGGY OPERATOR
LABORERS - ZONE 1

12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10

For apprentice rates see "Apprentice- LABORER"

ROLLER/SPREADER/MULCHING MACHINE
OPERATING ENGINEERS LOCAL 4

12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofing Waterproofing &Roofing Damproofing)
ROOFERS LOCAL 33

02/01/2017	\$41.36	\$11.10	\$13.80	\$0.00	\$66.26
08/01/2017	\$42.46	\$11.10	\$13.80	\$0.00	\$67.36
02/01/2018	\$43.61	\$11.10	\$13.80	\$0.00	\$68.51
08/01/2018	\$44.71	\$11.10	\$13.80	\$0.00	\$69.61
02/01/2019	\$45.86	\$11.10	\$13.80	\$0.00	\$70.76

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - ROOFER - Local 33
Effective Date - 02/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$20.68	\$11.10	\$3.44	\$0.00	\$35.22
2	60	\$24.82	\$11.10	\$13.80	\$0.00	\$49.72
3	65	\$26.88	\$11.10	\$13.80	\$0.00	\$51.78
4	75	\$31.02	\$11.10	\$13.80	\$0.00	\$55.92
5	85	\$35.16	\$11.10	\$13.80	\$0.00	\$60.06

Effective Date - 08/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.23	\$11.10	\$3.44	\$0.00	\$35.77
2	60	\$25.48	\$11.10	\$13.80	\$0.00	\$50.38
3	65	\$27.60	\$11.10	\$13.80	\$0.00	\$52.50
4	75	\$31.85	\$11.10	\$13.80	\$0.00	\$56.75
5	85	\$36.09	\$11.10	\$13.80	\$0.00	\$60.99

Notes: ** 1:5, 2:6-10, the 1:10; Reroofing: 1:4, then 1:1
 Step 1 is 2000 hrs.; Steps 2-5 are 1000 hrs.
 (Hot Pitch Mechanics' receive \$1.00 hr. above ROOFER)

Apprentice to Journeyworker Ratio:**
ROOFER SLATE / TILE / PRECAST CONCRETE
ROOFERS LOCAL 33

02/01/2017	\$41.61	\$11.10	\$13.80	\$0.00	\$66.51
08/01/2017	\$42.71	\$11.10	\$13.80	\$0.00	\$67.61
02/01/2018	\$43.86	\$11.10	\$13.80	\$0.00	\$68.76
08/01/2018	\$44.96	\$11.10	\$13.80	\$0.00	\$69.86
02/01/2019	\$46.11	\$11.10	\$13.80	\$0.00	\$71.01

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER
SHEETMETAL WORKERS LOCAL 17 - A

02/01/2017	\$43.72	\$11.45	\$23.07	\$2.35	\$80.59
08/01/2017	\$44.82	\$11.45	\$23.07	\$2.35	\$81.69
02/01/2018	\$45.97	\$11.45	\$23.07	\$2.35	\$82.84

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - SHEET METAL WORKER - Local 17-A
Effective Date - 02/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.49	\$11.45	\$5.24	\$0.00	\$34.18
2	40	\$17.49	\$11.45	\$5.24	\$0.00	\$34.18
3	45	\$19.67	\$11.45	\$10.31	\$1.24	\$42.67
4	45	\$19.67	\$11.45	\$10.31	\$1.24	\$42.67
5	50	\$21.86	\$11.45	\$11.21	\$1.34	\$45.86
6	50	\$21.86	\$11.45	\$11.46	\$1.34	\$46.11
7	60	\$26.23	\$11.45	\$13.02	\$1.52	\$52.22
8	65	\$28.42	\$11.45	\$13.93	\$1.61	\$55.41
9	75	\$32.79	\$11.45	\$15.74	\$1.80	\$61.78
10	85	\$37.16	\$11.45	\$17.05	\$1.97	\$67.63

Effective Date - 08/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$17.93	\$11.45	\$5.24	\$0.00	\$34.62
2	40	\$17.93	\$11.45	\$5.24	\$0.00	\$34.62
3	45	\$20.17	\$11.45	\$10.31	\$1.26	\$43.19
4	45	\$20.17	\$11.45	\$10.31	\$1.26	\$43.19
5	50	\$22.41	\$11.45	\$11.21	\$1.35	\$46.42
6	50	\$22.41	\$11.45	\$11.46	\$1.36	\$46.68
7	60	\$26.89	\$11.45	\$13.02	\$1.54	\$52.90
8	65	\$29.13	\$11.45	\$13.93	\$1.64	\$56.15
9	75	\$33.62	\$11.45	\$15.74	\$1.82	\$62.63
10	85	\$38.10	\$11.45	\$17.05	\$2.00	\$68.60

Notes:

Steps are 6 mos.

Apprentice to Journeyworker Ratio:1:4

SIGN ERECTOR

PAINTERS LOCAL 35 - ZONE 1

06/01/2013

\$25.81

\$7.07

\$7.05

\$0.00

\$39.93

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - SIGN ERECTOR - Local 35 Zone 1
Effective Date - 06/01/2013

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$12.91	\$7.07	\$0.00	\$0.00	\$19.98
2	55	\$14.20	\$7.07	\$2.45	\$0.00	\$23.72
3	60	\$15.49	\$7.07	\$2.45	\$0.00	\$25.01
4	65	\$16.78	\$7.07	\$2.45	\$0.00	\$26.30
5	70	\$18.07	\$7.07	\$7.05	\$0.00	\$32.19
6	75	\$19.36	\$7.07	\$7.05	\$0.00	\$33.48
7	80	\$20.65	\$7.07	\$7.05	\$0.00	\$34.77
8	85	\$21.94	\$7.07	\$7.05	\$0.00	\$36.06
9	90	\$23.23	\$7.07	\$7.05	\$0.00	\$37.35

Notes:

Steps are 4 mos.

Apprentice to Journeyworker Ratio:1:1

SPECIALIZED EARTH MOVING EQUIP < 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2016	\$33.54	\$10.91	\$10.89	\$0.00	\$55.34
---	------------	---------	---------	---------	--------	---------

SPECIALIZED EARTH MOVING EQUIP > 35 TONS TEAMSTERS JOINT COUNCIL NO. 10 ZONE A	12/01/2016	\$33.83	\$10.91	\$10.89	\$0.00	\$55.63
---	------------	---------	---------	---------	--------	---------

SPRINKLER FITTER SPRINKLER FITTERS LOCAL 550 - (Section A) Zone 1	03/01/2017	\$56.08	\$8.77	\$17.20	\$0.00	\$82.05
--	------------	---------	--------	---------	--------	---------

Apprentice - SPRINKLER FITTER - Local 550 (Section A) Zone 1
Effective Date - 03/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	35	\$19.63	\$8.52	\$8.70	\$0.00	\$36.85
2	40	\$22.43	\$8.52	\$8.70	\$0.00	\$39.65
3	45	\$25.24	\$8.52	\$8.70	\$0.00	\$42.46
4	50	\$28.04	\$8.52	\$8.70	\$0.00	\$45.26
5	55	\$30.84	\$8.52	\$8.70	\$0.00	\$48.06
6	60	\$33.65	\$8.52	\$10.20	\$0.00	\$52.37
7	65	\$36.45	\$8.52	\$10.20	\$0.00	\$55.17
8	70	\$39.26	\$8.52	\$10.20	\$0.00	\$57.98
9	75	\$42.06	\$8.52	\$10.20	\$0.00	\$60.78
10	80	\$44.86	\$8.52	\$10.20	\$0.00	\$63.58

Notes:

 Apprentice entered prior 9/30/10:
40/45/50/55/60/65/70/75/80/85
Steps are 850 hours

Apprentice to Journeyworker Ratio:1:3

STEAM BOILER OPERATOR OPERATING ENGINEERS LOCAL 4	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN OPERATING ENGINEERS LOCAL 4	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TELECOMMUNICATION TECHNICIAN ELECTRICIANS LOCAL 103	03/01/2017	\$36.25	\$13.00	\$15.60	\$0.00	\$64.85
	09/01/2017	\$36.96	\$13.00	\$15.62	\$0.00	\$65.58
	03/01/2018	\$37.86	\$13.00	\$15.65	\$0.00	\$66.51
	09/01/2018	\$38.75	\$13.00	\$15.67	\$0.00	\$67.42
	03/01/2019	\$39.65	\$13.00	\$15.70	\$0.00	\$68.35

Apprentice - TELECOMMUNICATION TECHNICIAN - Local 103

Effective Date - 03/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$14.50	\$13.00	\$0.44	\$0.00	\$27.94
2	40	\$14.50	\$13.00	\$0.44	\$0.00	\$27.94
3	45	\$16.31	\$13.00	\$12.54	\$0.00	\$41.85
4	45	\$16.31	\$13.00	\$12.54	\$0.00	\$41.85
5	50	\$18.13	\$13.00	\$12.81	\$0.00	\$43.94
6	55	\$19.94	\$13.00	\$13.09	\$0.00	\$46.03
7	60	\$21.75	\$13.00	\$13.37	\$0.00	\$48.12
8	65	\$23.56	\$13.00	\$13.65	\$0.00	\$50.21
9	70	\$25.38	\$13.00	\$13.93	\$0.00	\$52.31
10	75	\$27.19	\$13.00	\$14.21	\$0.00	\$54.40

Effective Date - 09/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$14.78	\$13.00	\$0.44	\$0.00	\$28.22
2	40	\$14.78	\$13.00	\$0.44	\$0.00	\$28.22
3	45	\$16.63	\$13.00	\$12.55	\$0.00	\$42.18
4	45	\$16.63	\$13.00	\$12.55	\$0.00	\$42.18
5	50	\$18.48	\$13.00	\$12.82	\$0.00	\$44.30
6	55	\$20.33	\$13.00	\$13.10	\$0.00	\$46.43
7	60	\$22.18	\$13.00	\$13.39	\$0.00	\$48.57
8	65	\$24.02	\$13.00	\$13.66	\$0.00	\$50.68
9	70	\$25.87	\$13.00	\$13.95	\$0.00	\$52.82
10	75	\$27.72	\$13.00	\$14.22	\$0.00	\$54.94

Notes:

Apprentice to Journeyworker Ratio:1:1

TERRAZZO FINISHERS BRICKLAYERS LOCAL 3 - MARBLE & TILE	02/01/2017	\$49.70	\$10.75	\$19.22	\$0.00	\$79.67
---	------------	---------	---------	---------	--------	---------

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.85	\$10.75	\$19.22	\$0.00	\$54.82
2	60	\$29.82	\$10.75	\$19.22	\$0.00	\$59.79
3	70	\$34.79	\$10.75	\$19.22	\$0.00	\$64.76
4	80	\$39.76	\$10.75	\$19.22	\$0.00	\$69.73
5	90	\$44.73	\$10.75	\$19.22	\$0.00	\$74.70

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2016	\$37.70	\$7.60	\$14.35	\$0.00	\$59.65
For apprentice rates see "Apprentice- LABORER"						
TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2016	\$36.42	\$7.60	\$14.35	\$0.00	\$58.37
For apprentice rates see "Apprentice- LABORER"						
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2016	\$36.30	\$7.60	\$14.35	\$0.00	\$58.25
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$44.94	\$10.00	\$15.25	\$0.00	\$70.19
	06/01/2017	\$45.93	\$10.00	\$15.25	\$0.00	\$71.18
	12/01/2017	\$46.92	\$10.00	\$15.25	\$0.00	\$72.17
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$34.12	\$10.91	\$10.89	\$0.00	\$55.92
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2016	\$48.58	\$7.60	\$14.75	\$0.00	\$70.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2016	\$50.58	\$7.60	\$14.75	\$0.00	\$72.93
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2016	\$40.65	\$7.60	\$14.75	\$0.00	\$63.00
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2016	\$42.65	\$7.60	\$14.75	\$0.00	\$65.00
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE A</i>	12/01/2016	\$33.54	\$10.91	\$10.89	\$0.00	\$55.34

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
WAGON DRILL OPERATOR <i>LABORERS - ZONE 1</i>	12/01/2016	\$36.60	\$7.60	\$14.15	\$0.00	\$58.35
	06/01/2017	\$37.60	\$7.60	\$14.15	\$0.00	\$59.35
	12/01/2017	\$38.45	\$7.60	\$14.15	\$0.00	\$60.20
	06/01/2018	\$39.40	\$7.60	\$14.15	\$0.00	\$61.15
	12/01/2018	\$40.35	\$7.60	\$14.15	\$0.00	\$62.10
	06/01/2019	\$41.35	\$7.60	\$14.15	\$0.00	\$63.10
	12/01/2019	\$42.35	\$7.60	\$14.15	\$0.00	\$64.10
For apprentice rates see "Apprentice- LABORER"						
WASTE WATER PUMP OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2016	\$45.38	\$10.00	\$15.25	\$0.00	\$70.63
	06/01/2017	\$46.38	\$10.00	\$15.25	\$0.00	\$71.63
	12/01/2017	\$47.38	\$10.00	\$15.25	\$0.00	\$72.63
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER <i>PLUMBERS & GASFITTERS LOCAL 12</i>	03/01/2017	\$52.69	\$11.32	\$15.46	\$0.00	\$79.47
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						
Outside Electrical - East						
CABLE TECHNICIAN (Power Zone) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$26.61	\$7.50	\$1.80	\$0.00	\$35.91
	09/03/2017	\$27.14	\$7.75	\$1.81	\$0.00	\$36.70
For apprentice rates see "Apprentice- LINEMAN"						
CABLEMAN (Underground Ducts & Cables) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$37.70	\$7.50	\$8.87	\$0.00	\$54.07
	09/03/2017	\$38.45	\$7.75	\$9.53	\$0.00	\$55.73
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN CDL <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$31.05	\$7.50	\$8.89	\$0.00	\$47.44
	09/03/2017	\$31.66	\$7.75	\$9.44	\$0.00	\$48.85
For apprentice rates see "Apprentice- LINEMAN"						
DRIVER / GROUNDMAN -Inexperienced (<2000 Hrs) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class A CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$37.70	\$7.50	\$12.95	\$0.00	\$58.15
	09/03/2017	\$38.45	\$7.75	\$13.61	\$0.00	\$59.81
For apprentice rates see "Apprentice- LINEMAN"						
EQUIPMENT OPERATOR (Class B CDL) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$33.26	\$7.50	\$9.63	\$0.00	\$50.39
	09/03/2017	\$33.92	\$7.75	\$10.21	\$0.00	\$51.88
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$24.39	\$7.50	\$1.73	\$0.00	\$33.62
	09/03/2017	\$24.88	\$7.75	\$1.75	\$0.00	\$34.38
For apprentice rates see "Apprentice- LINEMAN"						
GROUNDMAN -Inexperienced (<2000 Hrs.) <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$19.96	\$7.50	\$1.60	\$0.00	\$29.06
	09/03/2017	\$20.35	\$7.75	\$1.61	\$0.00	\$29.71
For apprentice rates see "Apprentice- LINEMAN"						
JOURNEYMAN LINEMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	08/28/2016	\$44.35	\$7.50	\$15.83	\$0.00	\$67.68
	09/03/2017	\$45.23	\$7.75	\$16.61	\$0.00	\$69.59

Classification
Effective Date
Base Wage
Health
Pension
**Supplemental
Unemployment**
Total Rate
Apprentice - LINEMAN (Outside Electrical) - East Local 104
Effective Date - 08/28/2016

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$26.61	\$7.50	\$3.30	\$0.00	\$37.41
2	65	\$28.83	\$7.50	\$3.36	\$0.00	\$39.69
3	70	\$31.05	\$7.50	\$3.43	\$0.00	\$41.98
4	75	\$33.26	\$7.50	\$5.00	\$0.00	\$45.76
5	80	\$35.48	\$7.50	\$5.06	\$0.00	\$48.04
6	85	\$37.70	\$7.50	\$5.13	\$0.00	\$50.33
7	90	\$39.92	\$7.50	\$7.20	\$0.00	\$54.62

Effective Date - 09/03/2017

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$27.14	\$7.75	\$3.31	\$0.00	\$38.20
2	65	\$29.40	\$7.75	\$3.38	\$0.00	\$40.53
3	70	\$31.66	\$7.75	\$3.45	\$0.00	\$42.86
4	75	\$33.92	\$7.75	\$5.02	\$0.00	\$46.69
5	80	\$36.18	\$7.75	\$5.09	\$0.00	\$49.02
6	85	\$38.45	\$7.75	\$5.15	\$0.00	\$51.35
7	90	\$40.71	\$7.75	\$7.22	\$0.00	\$55.68

Notes:
Apprentice to Journeyworker Ratio:1:2

TELEDATA CABLE SPLICER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$28.98	\$4.25	\$3.12	\$0.00	\$36.35
TELEDATA LINEMAN/EQUIPMENT OPERATOR <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63
TELEDATA WIREMAN/INSTALLER/TECHNICIAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/01/2016	\$27.31	\$4.25	\$3.07	\$0.00	\$34.63
TREE TRIMMER <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$18.51	\$3.55	\$0.00	\$0.00	\$22.06
This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is not on the ground. This classification does not apply to wholesale tree removal.						
TREE TRIMMER GROUNDMAN <i>OUTSIDE ELECTRICAL WORKERS - EAST LOCAL 104</i>	01/31/2016	\$16.32	\$3.55	\$0.00	\$0.00	\$19.87

This classification applies only to tree work done: (a) for a utility company, R.E.A. cooperative, or railroad or coal mining company, and (b) for the purpose of operating, maintaining, or repairing the utility company's equipment, and (c) by a person who is using hand or mechanical cutting methods and is on the ground. This classification does not apply to wholesale tree removal.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
----------------	----------------	-----------	--------	---------	------------------------------	------------

Additional Apprentice Information:

Minimum wage rates for apprentices employed on public works projects are listed above as a percentage of the pre-determined hourly wage rate established by the Commissioner under the provisions of the M.G.L. c. 149, ss. 26-27D. Apprentice ratios are established by the Division of Apprenticeship Training pursuant to M.G.L. c. 23, ss. 11E-11L.

All apprentices must be registered with the Division of Apprenticeship Training in accordance with M.G.L. c. 23, ss. 11E-11L.

All steps are six months (1000 hours.)

Ratios are expressed in allowable number of apprentices to journeymen or fraction thereof, unless otherwise specified.

- ** Multiple ratios are listed in the comment field.
- *** APP to JM; 1:1, 2:2, 2:3, 3:4, 4:4, 4:5, 4:6, 5:7, 6:7, 6:8, 6:9, 7:10, 8:10, 8:11, 8:12, 9:13, 10:13, 10:14, etc.
- **** APP to JM; 1:1, 1:2, 2:3, 2:4, 3:5, 4:6, 4:7, 5:8, 6:9, 6:10, 7:11, 8:12, 8:13, 9:14, 10:15, 10:16, etc.

PART 3: TECHNICAL SPECIFICATIONS

02 41 00 – SITE PREPARATION AND DEMOLITION

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions and general requirements of the Contract, including Division 00 and Division 01, apply to the work under this Section.
- B. The Contractor shall, prior to any removal of rubbish or debris from the site, furnish written evidence satisfactory to the Owner's Representative that he has an approved dumping location for debris and/or spoil from his removals and excavation activities.
- C. Cleaning of materials for the purpose of salvage on the site shall not be permitted.
- D. The Contractor shall secure all necessary permits from the City of Somerville before starting this project.

1.02 Work Included

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform all Site Preparation work complete, as shown on the Drawings and as specified herein.
- B. Work includes, but is not limited to the following:
 - 1. Temporary construction fencing to secure work and staging area;
 - 2. Removal of asphalt paving, subbase materials (where shown on Drawings), plant material, curbing, fencing and site amenities as identified on the drawings;
 - 3. Sawcutting existing pavement;
 - 4. Materials to be removed and disposed legally off-site;
 - 5. Protection of existing trees and vegetation, paving, utility poles, fences, walls, utilities, and building not indicated to be removed on the Drawings;
 - 6. Salvaging materials indicated on plan;
 - 7. Tree pruning;
 - 8. Sedimentation controls;

1.03 References

- A. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of the other trades. Cooperate with all trades and all departments of City of Somerville and coordinate all work under this Section.
- B. The following related items are included under the Sections listed below

1. Section 01 23 00 – Alternates
2. Section 11 68 00 – Play Equipment
3. Section 31 00 00 – Excavation, Filling and Grading
4. Section 32 12 16 – Asphalt Paving
5. Section 32 13 13 – Concrete
6. Section 32 16 00 – Curbing
7. Section 32 18 00 – Recreational Surfacing
8. Section 32 30 00 – Site Improvements
9. Section 32 31 00 – Fences and Gates
10. Section 32 90 00 – Planting
11. Section 33 40 00 – Storm Drainage Utilities

1.04 Laws, Ordinances, Permits and Fees

The Contractor shall:

- A. Give necessary notices, obtain all permits and pay all governmental fees and other costs in connection with this work, file all necessary plans, prepare documents and obtain all necessary approvals.
- B. Obtain all required certificates of inspection for this work and deliver it to the Landscape Architect before request for acceptance and final payment for the work.
- C. Include in the work, without extra cost to the Owner, any labor, materials, services, apparatus, drawings (in addition to contract drawings and documents) in order to comply with all applicable laws, ordinances, rules and regulations, whether or not shown on the drawing and/or specified. The disturbed areas shall be secured with chain link construction fence and fence shall be maintained at all times while site is under construction as per General Conditions Section 00 70 00 of the Specifications.
- D. Provide all safety controls during construction including temporary walkways, fencing, barricades, etc. at no additional cost to the Owner.
- F. Completely remove from the project area all demolished materials, except as designated for stockpiling for re-use, and dispose of all materials off the site. Disposal of the materials shall be done in such a manner that there shall be no accumulation of any demolished material which may, in the opinion of the Owner's Representative, the Fire Department or any other public agency having jurisdiction, constitute a hazard.

1.05 Definitions

The following related items are included herein and shall mean:

- A. S.S.H.B. - Standard Specifications for Highways and Bridges, the Commonwealth of Massachusetts, Department of Transportation, latest edition.
- B. A.S.T.M. - American Society for Testing and Materials.
- C. A.A.S.H.T.O. - American Association of State Highway and Transportation Officials.

1.06 Site Conditions

- A. The Contractor shall visit and accept the site as he finds it and shall inform himself of the character and the type of structures to be removed. The Owner assumes no responsibility for the condition of the site. Damage to the site (whether by reason of fire, theft, or other happenings) shall be at the risk of the Contractor from and after the date of Contract execution and no such damage or loss shall relieve the Contractor from any obligation under the Contract.
- B. Contractor shall not work on or with soils when they are overly dry, wet, or frozen.

1.07 Protection

- A. All rules and regulations governing the respective utilities shall be observed in executing all work under this Section. All work shall be executed in such a manner as to prevent any damage to existing streets, curbs, paving, service utility lines and structures, drainage lines and structures, and adjoining property. Monuments and benchmarks shall be carefully maintained and, if disturbed or destroyed, replaced as directed.
- B. The Contractor shall assume full responsibility for damage caused by his Subcontractor's equipment and personnel to the existing grounds as well as adjoining private property. The Contractor shall obtain approval for subsurface construction from all necessary parties and the City of Somerville before proceeding within the Contract limits.
- C. The work of this Section shall be performed in such a manner as to cause no interference with access by the Subcontractors or other Contractors to all portions of the site as is necessary for the normal conduct of their work.
- D. The Contractor shall take adequate precautions to protect all walks, roads, streets, curbs, pavements, trees and planting, on or off the premises, and shall repair and replace or otherwise make good at no expense to the owner, as directed by the Owner's Representative, any damage so caused.

1.08 Special Protection for Maintaining Streets and Public Ways

- A. Do not close or obstruct streets without a permit. Do not place or store material in streets, alleyways or sidewalks.
- B. Conduct operations with minimum interference to street.
- C. Furnish, erect and maintain fences, planking, bracing, shoring, sheathing, lights, barricades, warning signs, and guards as necessary for the protection of streets, sidewalks, and adjoining property.

- D. Completely remove all protection when the work is completed or when directed in writing to do so by the Owner.

1.09 Utilities

- A. **Discontinuance or Interruption**
Before starting demolition, the Contractor shall be solely responsible for making all necessary arrangements and for performing any necessary work involved in connection with the discontinuance or interruption of all public and private utilities or services under the jurisdiction of the utility companies or corporations, and the Owner. These include gas, electricity, steam, refrigeration, low tension system, telephone, internet access, television, police signal, fire alarm, water, sanitary sewer, storm drainage, and without limiting the generality of the foregoing, including any system or systems which will be affected by the work to be performed under this Contract. The Contractor shall contact DIG-SAFE at 1-888-344-7233 and follow normal procedures prior to commencing any excavation work at the site.
- B. **Protection**
Preserve in operating condition all active utilities traversing the project site, which are to remain. Should any damage occur to a utility which is to remain as a result, in the judgment of the Owner's Representative, of this operation, the Contractor shall at his own expense, repair all damage to any such utility to the satisfaction of the Owner.

PART 2 - MATERIALS

2.01 Temporary Construction Fence

- A. Temporary Construction Fence shall be six-foot high galvanized steel fence panels on stable, movable footings and include hardware to secure panels together.

2.02 Erosion and Sedimentation Control

- A. Materials for erosion and sedimentation control shall be as described herein.
 - 1. Catch basin filters shall be SiltSack by ACF Environmental 1-800-448-3636 or approved equal. Provide regular flow (40 gal./min./ft.²) or high flow (200 gal./min./ft.²) as required to provide positive drainage of all contributing areas.
 - 2. Filter fabric: Refer to Section 310000 – Excavation, Filling and Grading
 - 3. Straw hay bales free of weed seeds.

PART 3 - EXECUTION

3.01 Temporary Construction Fence

- A. The Contractor shall be responsible for providing and maintaining six-foot high temporary movable galvanized steel fencing around the construction and staging areas to ensure the safety of all persons authorized or unauthorized. Construction staging areas on site shall be coordinated with the Owner. Contractor shall coordinate with the Owner to maintain safe pedestrian and emergency access to the school at all times.

3.02 Erosion and Siltation Control

- A. Intent: The Contractor is responsible for providing all temporary erosion and siltation control measures required to control erosion of soils within the areas of earthwork operations. The Contractor shall carry a contingency as part of his base bid contract price to provide temporary erosion controls to be installed during construction as required to contain water borne sediments within the project work area and prevent siltation of open or subsurface drainages systems.
- B. Straw hay bales shall be installed as required to prevent sediments from contaminating drainage systems and finished improvements.
- C. Catch basin filters shall be installed at all catch basins within the project work area and immediately adjacent downstream from the work area.
 - 1. Install catch basin filters in accordance with the manufacturer's recommendations prior to any catch basin described above becoming exposed to any siltation.
 - 2. Remove and replace catch basin filters as required to permit sufficient water flow to provide positive drainage of all contributing areas
 - 4. Filter fabric: Refer to Section 310000 – Excavation, Filling and Grading

3.03 Site Engineering and Layout

- A. Prior to the start of sawcutting pavement and excavation operations, lay out sawcut lines and stake out site elements, limits of cut and fill and work limit lines for the Landscape Architect's review.
- B. Saw cut existing paving at all locations where pavement to be removed meets existing pavement to remain. Sawcuts shall be made with sharp tools and blades to provide a clean vertical cut line in the precise layout indicated on the drawings. Use carbide or other type blade intended for that purpose

3.04 Removals

- A. Remove and legally dispose of all paving indicated on the Drawings to be removed and all other paving required to be removed in order to construct the Project.
- B. All holes and trenches resulting from removals shall be backfilled as appropriate with gravel borrow and compacted as specified in Section 31 00 00 – Excavation, Filling and Grading.

3.05 Dust Control

- A. Wet down thoroughly all work during excavation to prevent spread of dust. Make all arrangements and pay for all water and necessary connections therefor.

3.06 Above and Below Grade Improvements

- A. Remove and legally dispose of all existing above and below grade improvements as indicated on the Drawings and as necessary to permit construction of the Project, including pipes, tanks, concrete slabs, castings, curbing and any and all other improvements inside or outside the contract limits. Remove walls and other obstructions to a depth of at least 2 feet below finished grades and as required to construct the subsurface improvements of this project.

3.07 Protection and Pruning Existing Plant Material to Remain

- A. Within the limit of work lines protect all plant materials to remain as indicated on the Drawings. No such plant materials shall be used as guys or other fastenings. Equipment access and storage of materials is prohibited at all landscape areas.
- B. Trees within and adjacent to the limit of work shall be pruned in accordance with ANSI A300 (Part 3) Tree, Shrub, and Other Woody Plant Maintenance - Standard Practices, latest edition, to clean, raise and reduce branches as directed by the Landscape Architect and as required to provide adequate clearance at proposed improvements.
- C. If it becomes necessary to cut roots of plants to be saved, such roots shall be neatly cut after consulting the Landscape Architect.

3.08 Clean-Up

- A. Keep pavements and areas adjacent to and leading from the site, clean and free of mud, dirt and debris.
- B. Remove from the project site all materials and debris resulting from the work of excavation. Storage of such materials on the project site will not be permitted. The project site shall be safe, clean and holes filled and compacted with clean fill upon completion of the excavation and site clearance work.

END OF SECTION

SECTION 11 68 00 - PLAY EQUIPMENT

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions of the Contract, including Division 00 and Division 01, apply to the work under this Section.
- B. All references to products by manufacturer, trade name or performance Specifications bearing the connotation "or approved equal" shall be as determined by the Landscape Architect and the City.

1.02 Work Includes

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform all site improvements complete as shown on the Drawings and specified herein.
- B. To be included, but not limited to the following:
 - 1. Furnish and install new Play Climbers:
 - a) Venti Climber
 - b) Tower Climber
 - c) Pre-K Climber
 - d) Slope Net Climber
 - 2. Furnish and Install new Basket Swing
 - 3. Furnish and Install new Viking Swing
 - 4. Furnish and Install new seesaw
 - 5. Furnish and Install new sensory panels
 - 6. Furnish and Install new EPDM Half Balls
 - 7. Furnish and Install new embankment slide
 - 8. Furnish and Install new basketball posts and goals
 - 9. Furnish and Install new play stumps
 - 10. Furnish and deliver Big Blue Blocks Set and polyethylene storage container

1.03

1.04 References

- A. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades and all departments of the City of Somerville and coordinate all work under this Section therewith.
- B. The following related items are included under the Sections listed below:
 - 1. Section 02 41 00 – Site Preparation and Demolition
 - 2. Section 31 00 00 – Excavation, Filling and Grading
 - 3. Section 32 12 16 – Asphalt
 - 4. Section 32 13 13 – Portland Cement Concrete
 - 5. Section 32 18 00 – Recreational Surfacing

1.05 Submittals

- A. Provide detailed shop drawings for all play equipment and individual components for review and approval by the Landscape Architect. This submittal must include the following items to be considered complete:
 - 1. Large-scale drawing showing all play components, their attachment to each other and the associated use zones.
 - 2. Manufacturer's specifications, installation recommendations and details for all newly furnished play components.
 - 3. Evidence of compliance with IPEMA certification (ASTM F 1487-95) "Standard Consumer Safety Performance Specification for Playground Equipment for Public Use" for new components.
 - 4. Material and Workmanship Warranty
 - 5. Product Liability Insurance Certificate(s): The manufacturer(s) of the new playground components shall have in effect at the time of the completed installation and maintain an insurance policy covering completed operations (Product Liability) with a minimum limit of \$1,000,000.00 (One Million Dollars).
- B. Provide manufacturer's product material information and system performance data along with material and system samples for each item specified in this Section for the Landscape Architect's review and approval prior to ordering materials.
- C. The General Contractor shall verify by field inspection that all items within this section conform to the specified requirements and approved submittals prior to installation.
- D. Supply documentation stating the system installer is a manufacturer's certified installer.

1.06 Product Delivery, Storage and Handling

- A. Deliver materials in manufacturer's original unopened and undamaged packages with labels legible and intact.
- B. Store materials in unopened packages in a manner to prevent damage from the environment and construction operations.
- C. Handle in accordance with manufacturer's instructions.

1.07 Definitions

- A. The following items are included herein and shall mean:
 - 1. S.S.H.B. - Standard Specifications for Highway and Bridges, the Commonwealth of Massachusetts, Department of Public Works, latest edition.
 - 2. A.S.T.M. - American Society for Testing and Materials. The following standard specifications are applicable to the associated items as listed.
 - a. F1487 ...Playground Equipment for Public Use
 - b. A36...Steel
 - c. A153...Zinc Coating (hot-dip) on hardware
 - d. A307...Carbon Steel bolts 66000 psi tensile
 - 3. CPSC - Consumer Product Safety Commission.
 - 4. ADA - Americans with Disabilities Act and its current regulations.
 - 5. MAAB: Massachusetts Architectural Access Board Rules and Regulations
 - 6. AWS: American Welding Society
 - 7. SSPS: Steel Structures Painting Council

1.08 Quality Assurance

- A. The playground installation contractor shall provide written certification by a Certified Playground Safety Inspector (CPSI) that the installed equipment conforms to all applicable safety and accessibility standards including, but not limited to ASTM, CPSC, ADA, and MAAB. The Owner reserves the right to retain an independent CPSI to inspect the playground equipment and surfacing after reinstallation. The Contractor will be responsible for correcting any deficiencies at their own expense to the satisfaction of the Landscape Architect.

PART 2 - PRODUCT

2.01 Venti Climber

- A. Play Structure Manufacturer: play climber shall be by Landscape Structures, Inc., represented by ME O'Brien & Sons, 93 West Street, PO Box 650, Medfield, MA 02052-0650, 800-835-0056 or approved equal.
- B. General Play Components:
 - 1. Steel Tubing: Tubing shall be cold rolled, electric resistance welded tubing. All tubular products shall be polyester powder coated after hot-dipped electric zinc galvanized coating. Tubing interior shall have a corrosion resistant, zinc-rich paint coating. Typical footing dimension is 30" deep by 16" wide.
 - 2. Aluminum Tubing: Tubing (Support Post and Sleeve) shall be extruded 6061-T6 extruded seamless aluminum alloy tubing. Aluminum Tubing shall be an all welded assembly fabricated of 6063-T4 extruded seamless aluminum alloy tubing, Typical footing dimension is 30" deep by 16" wide.
 - 3. Rotationally Molded Plastic Parts: molded from color-compounded, liner low density polyethylene. Dry-blended resins are not acceptable. Polyethylene shall be ultraviolet stabilized and anti-static additives; cross-sectional design shall be 4mm nominal thickness, double wall construction.
 - 4. Polyester Powder Coat Finish: Aluminum component to be powder coated shall be free of weld spotter and washed in a hyper-clean system. Powder coating shall be electrostatically applied and oven cured for 15 minutes to thickness of 2 to 5 mils.
 - 5. Hardware: All fasteners shall be stainless steel; tamper-resistant hardware is utilized on principal clamping mechanisms. Special tools shall be provided for assembly and maintenance by using drive rivets. Physical locking devices are used on all exposed and accessible connection points, such as lock nuts. Liquid thread-lock shall be used to hinder fastener removal.
 - 6. Polyethylene Coating for decks and stairs shall be a skid resistant, ultraviolet stabilized and weather resistant thermoplastic polyethylene. The coating shall have approximate thickness of 45-55 mils on wear surfaces and 30 mils on all other surfaces. Coatings containing PVC and phthalate shall not be acceptable. Coating shall have the following performance properties: Property - Testing Method - Results
Flexibility (conical mandrel) - ASTM D 522 - 1/8", no cracks (greater than 32%)
Adhesion - ASTM D 4541 - 800 psi Impact Resistance - ASTM D 2794 - greater than 320 in-lbs Gloss - ASTM D 523 - 12 Taber Abrasion - ASTM D 4060 - 26 (mg loss, CS 17 wheel) Tensile Strength - ASTM D 638 - 3482 psi % Elongation - ASTM D 638 - 13% Humidity Resistance - ASTM D 2247 - No blistering or loss of gloss after 1000 hours Salt Spray - ASTM B 117 - 2000 hrs, no significant change in color or gloss QUV - ASTM G 53 - 2000 hrs, no significant change in color or gloss. Slip Resistance - Textured finish for enhanced traction. 0.74 coefficient of friction per ASTM1679.

7. Die Cast Clamps: Clamps shall be die cast of high strength 380 aluminum alloy. Tenzalloy (40-E, 315.0) is not acceptable as a load bearing clamp material. Ultimate tensile strength shall be 47 ksi. Clamps shall be provided as hinged assemblies to facilitate structure assembly. S-lap design to eliminate all string entanglement points at connection. Clamps are to be permanently fastened to the support post with a drive rivet to eliminate disassembly and slippage. Clamps shall have a baked on polyester power coat finish.

2.02 Tower Climber

- A. Play Structure Manufacturer: play climber shall be by Little Tikes Commercial, Inc., represented by Jason Corbett, 878 E Highway 60, Monett, MO, 65708, 617-605-1980 or approved equal.

B. Parts:

Part #	Description
116022	WARNING LABEL 3 MESSAGES
200006961	BRIDGE ARCH W/SAFETY RAILS KB
200006975	SLIDE DBL. W.D. 915 MM /36" KB
200006983	SLIDE TUNNEL STRAIGHT KB 1220 MM/48" KB
200007055	PANEL FLT.TP. ANIMAL KB
200007060	PANEL FRONTIER WINDOW UPPER KB
200008193	TOOL BOX KID BUILDERS (MM)
200013800	KB 136" POST PLUS GLV. W/ALUM.CAP
200013812	KB 148" POST PLUS GLV. W/ALUM.CAP
200015483	KB 164" POST PLUS GLV. W/ALUM.CAP
200016532	PANEL COUNTER F/STORE FRONT KB (STEEL)
200072380	KBP MESH SQUARE ROOF (2001)
200084344	CHAIN NET KB 36"/915 W/SAFETY LOOPS
200104304	LABEL AGE APP. (2 TO 5 YRS.)
200111492	LABEL, IDENTIFICATION STAMPED W/RIVETS
200116288	ROOF GABLE MESH F/KB
200131014	KB 172" GALV. POST WITH ALUM. CAP

200200124	POST PLUS 172" W/CAP F/KB
200200187	KB DK/DK PLATE 8"/205MM (FACES)
200200193	KB LONG DK/DK PLATE 8"/203MM (FACES)
200200266	CLIMBER CURLY 1220MM/48" KB (2004)
200200530	KIT MAINTENANCE KB W/PAINT
200201031	KB BARN GABLE ROOF PANEL RED/WHT
200201182	KB 7' GALV POST PLUS W/ALUM CAP
200202483	KB DECK SQUARE LARGE HOLE 11GA
200202488	KB DECK 1/2 SQUARE LARGE HOLE 11GA
200202552	KB TRANS STAT 812 GRD RL 11GA
200202741	NU-EDGE LOG SLICE CLIMB 1220MM(48") F/KB
200203388	TEAM TOTTER
200305596	CRATE,MED.14' L X 34.5" H
200305597	CRATE,LARGE.14' L X 54.5" H
9991	BIBA ENTRY SIGN ENGLISH
9992	BIBA 6 POST MARKERS (SET OF 6)

C. General Play Components:

1. Plastic Caps shall fit snugly into 127 mm (5") and 33 mm (1.315") tube ends and shall be injection molded Low Density Polyethylene. This plastic shall be stabilized against ultraviolet (UV) degradation and shall have color molded in. All caps will be installed at the factory and 127 mm (5") caps will be secured with aluminum hammer drive pins.
2. Aluminum Caps shall fit snugly into 127 mm (5") tube ends. The Aluminum cap shall be made from SAE 413 aluminum with a minimum wall thickness of 4 mm. Prior to insertion into the post, all caps shall be painted per PPLT PAINT Specification. All caps will be installed at the factory and 127 mm (5") caps will be secured with aluminum hammer drive pins.
3. PPLT PAINT Specification: Primer shall be electrostatically applied and cured in an infrared oven. Paint shall be an electrostatically applied polyester TGIC (triglycidyl isocyanurate) powder coating which shall be cured at temperatures between 400 and 500 degrees Fahrenheit. The thickness of the combined

primer/paint shall be between 5 mils and 11 mils. The polyester powder shall comply with ASTM standards: D-2794 (Impact Resistance Test), B-117 (Salt Spray Resistance Test), G26 (Weatherability Test), and D3359B (Adhesion Crosshatching Test).

4. Rotationally Molded Plastic Specification: Parts shall be molded from linear low density polyethylene with ultraviolet (UV) light stabilizers, anti-static guard (for Molding purposes) and color molded in. This material shall comply with ASTM-D-790 (Flex Modulus), ASTM -D-638 (Tensile Strength), ASTM-D-648 (Heat Deflection Temperature), ARM-STD (Low Temperature Impact) and rated UL 94.
5. PPLT PVC Specification: Textured Poly-Vinyl-Chloride coating shall be an average of 3 mm (.125") thick. Poly-vinyl-chloride coating shall be oven cured and textured for added traction when wet or dry.
6. Hardware: Bolts, Nuts, Screws, Threaded Spacers, Washers and Other Hardware used in the assembly of components shall be metric stainless steel and tamper resistant. All necessary hardware shall be provided.
7. Deck Clamp assemblies shall consist of two steel half-clamps. Clamp profiles shall be designed to eliminate protrusions. Clamps shall be die formed from 12 gauge HRPO steel. Clamps shall have a 6 mm (.25") radius rib formed in the top and bottom of the clamp for structural integrity. The clamp attachment bracket shall be formed from 11 gauge sheet steel and shall be welded securely to the clamp half. All clamp halves shall be zinc plated, yellow dichromate coated and phosphate coated before being TGIC (triglycidyl isocyanurate) polyester powder coated. Tamper-resistant fasteners shall be used to retain clamps and shall consist of M10 six lobe socket head stainless steel cap screws and M10 slab-base Tee nuts. All clamps shall be provided with aluminum hammer drive pins to protect against slippage.
8. Rail Clamp assemblies shall consist of two steel half-clamps. Clamp profiles shall be designed to eliminate protrusions. Clamps shall be die formed from 12 gauge HRPO steel. Clamps shall have a minimum 6 mm (.25") radius rib formed in the top and bottom of the clamp for structural integrity. All clamp halves shall be zinc plated, yellow dichromate coated and phosphate coated before being TGIC (triglycidyl isocyanurate) polyester powder coated. Tamper-resistant fasteners shall be used to retain clamps and shall consist of M10 six lobe socket head stainless steel cap screws and M10 slab-base Tee nuts. All clamps shall be provided with aluminum hammer drive pins to protect against slippage.
9. Wing and Panel Clamp assemblies shall consist of two steel half-clamps. Clamp profiles shall be designed to eliminate protrusions. Clamps shall be die formed from 12 gauge HRPO steel. Clamps shall have a 6 mm (.25") radius rib formed in the top and bottom of the clamp for structural integrity. The clamp wing bracket shall be formed from 7 gauge sheet steel and shall be welded securely to the clamp half. All clamp halves shall be zinc plated, yellow dichromate coated and phosphate coated before being TGIC (triglycidyl isocyanurate) polyester powder coated. Tamper-resistant fasteners shall be used to retain clamps and shall consist of M10 six lobe socket head stainless steel cap screws and M10 slab-base Tee nuts. All clamps shall be provided with aluminum hammer drive pins to protect against slippage.

10. All Steel Tube Components shall comply with ASTM standards: A-500, Or A-513.
The steel tube components contain five layers including an inside galvanized coating, high tensile strength cold formed steel, hot dipped pure zinc meeting ASTM B-6 applied at 3.5 tenths of an ounce per square foot, and a proprietary conversion and advanced polymer coatings. The components are freed of excess weld spatter and shall be cleaned in a multiple bath system which shall include a rust-inhibitive iron phosphate wash prior to painting. Exceptions: 127 mm (5") O.D. aluminum posts.
11. Brackets shall be fabricated from punched and formed 4.5 mm pre-galvanized sheet steel. Gaskets shall be rubber injection molded from ultraviolet (U.V.) protected synthetic rubber. Rubber gaskets shall provide an aesthetic seal around the wonder fastener and bracket.
12. Footing for 127 mm (5") diameter upright posts shall be 305 mm (12") diameter x 940 mm (37") depth. Galvanized steel posts shall be 127 mm (5") O.D., 11 gauge pre-galvanized round tubing. Minimum tensile strength shall be 330MPa (48,000 psi). Minimum yield point shall be 310MPa (45,000 psi). The bottom portion of all upright posts shall be crimped slightly.

D. Components Specifications:

1. GAUGE GALVANIZED STEEL POST shall be 127 mm (5") O.D., 11 gauge pre-galvanized round tubing. Minimum tensile strength shall be 330MPa (48,000 psi). Minimum yield point shall be 310MPa (45,000 psi). Plastic caps shall fit into the uncrimped end of the 127 mm (5") tube. After fabrication, all posts shall be painted per PPLT PAINT Specification.
2. GAUGE GALVANIZED STEEL POST shall be 127 mm (5") O.D., 11 gauge pre-galvanized round tubing. Minimum tensile strength shall be 330MPa (48,000 psi). Minimum yield point shall be 310MPa (45,000 psi). Plastic caps shall fit into the uncrimped end of the 127 mm (5") tube. After fabrication, all posts shall be painted per PPLT PAINT Specification.
3. ACTIVITY PANELS, TIC-TAC-TOE, SPELLING, MATH, AND ANIMAL shall consist of a cylinder assembly and enclosure panel. Cylinders shall have vertical support bars which shall be fabricated from 25 mm (1") O.D., pre-galvanized steel tubing. Panel and cylinders shall be rotationally molded per PPLT ROTO Specification. The molded-in graphics shall not be raised above the surface of the plastic. Panel mounting brackets shall be fabricated from 7 gauge pre-galvanized sheet steel. After fabrication, all steel parts shall be painted per PPLT PAINT Specification.
4. ARCH BRIDGE WITH SAFETY RAILS shall be a minimum of 915 mm (36") wide. Arch Bridge shall be fabricated from precision punched 13 gauge steel with 76 mm (3") formed sides. Bridge assemblies shall be vinyl dipped per PPLT PVC Specification. Safety Rails vertical rungs shall be fabricated from 1" X 3/4" FSO pre-galvanized steel tubing. The horizontal rails shall be fabricated from 33 mm (1.315") pre-galvanized steel tubing. Safety rails shall provide an enclosure, and shall have no gaps greater than 80 mm (3.15") and less than 254 mm (10"), especially between vertical rungs and posts. Safety rails shall be painted per PPLT PAINT Specification.

5. CASTLE PANEL, FRONTIER VILLAGE PANEL, SHIP PANEL, SHIP BOW PANEL (U.S. Patent #D-374,054), SHIP SAIL, CAPTAIN'S WHEEL, PALM TREE, AND BAMBOO THEME PANEL and components shall be rotationally molded per PPLT ROTO Specification. The molded in graphics on the ship's bow shall not be raised above the surface of the panel.
6. CHAIN NET CLIMBER shall be constructed from 25.4 mm (1") HR tubing and 4/0 steel chain. Chain assembly shall be coated per PPLT PVC Specification. Available with hand loops or safety loops. Safety Loops shall be fabricated from 33 mm (1.315") O.D. pre-galvanized steel tubing and 3 mm (11 gauge) pre-galvanized sheet steel. Hand Hold Loops shall be fabricated from 33 mm (1.315") O.D. pre-galvanized steel tubing. After fabrication all parts except for the chain assembly shall be painted per PPLT PAINT Specification.
7. COLORED KICK PLATES AND DECK TO DECK ACTIVITY PLATES shall be fabricated from 13 gauge (2.3 mm) pre-galvanized sheet steel for the 8", 12", and 16", 24", 28", and 32" plain models. Models with slots or Parachutes (24", 28", 32") shall be fabricated from 11 gauge (3.0 mm) pre-galvanized sheet steel. After fabrication, deck to deck plates shall be painted per PPLT PAINT Specification. 8", 12" and 16" plates shall have fun faces laser cut into them. 24", 28" and 32" plates shall have grooves cut into them with optional slider "Parachute/shapes" fabricated from CNC Routed high density polyethylene sheet.
8. CURLY CLIMBER shall be of a design which will not allow children to climb into the interior of the coil. Curly Climber coils shall be fabricated from 33 mm (1.315") O.D. pre-galvanized steel tubing. The center support post shall be fabricated out of 42.2 mm (1.66") O.D. pre-galvanized steel tubing. Enclosure shall be fabricated from 33 mm (1.315") O.D. pre-galvanized steel tubing and 3 mm (11 gauge) pre-galvanized sheet steel. Curly Climbers shall be an all welded construction and shall be painted per PPLT PAINT Specification.
9. DOUBLE WIDE SLIDE WITH HOOD shall be rotationally molded per PPLT ROTO Specification. Plastic double wide slide sides shall be 203 mm (8") high from the slide surface and slide bed way shall be designed with a 406 mm (16") minimum width. Double wide slide shall be a one-piece design with a center divider having no seams, joints or gaps. Slide end support shall be fabricated from 38 mm (1.5") square tubing. Mid support shall be fabricated from 60.3 mm (2.37") O.D. tubing. All steel tubing shall be painted per PPLT PAINT Specification.
10. Identification label shall be fabricated from aluminum sheet .016" (4 mm) thick and attached with aluminum pop rivets.
11. KidBuilders Barn panel is constructed from 3/4" (19mm) thick red/white/red high density polyethylene with a barn door design routed in the front. The panel is mounted to the front edge of a deck along the lower edge and to 2 posts using wing clamps in the upper corners.
12. MESH GABLE ROOF shall have ribs fabricated from 11 gauge 127 mm (5") O.D. pre-galvanized steel tubing. Ribs shall be bent to a 610 mm (24") center line radius. Roof section shall be fabricated from 16 gauge pre-galvanized sheet

steel with 6 x 76 mm (.25" x 3") slots punched over the entire surface to provide light. The roof section shall be mechanically attached to each rib to form the gable roof assembly. After fabrication the gable roof shall be painted per PPLT PAINT Specification.

13. NU-EDGE LOG SLICE CLIMBERS shall have steps made from NATURTEK material formed into the shape of slices of logs. They will be attached to a climber fabricated from 4.5mm (7ga) pre-galvanized sheet steel, 48.3mm (1.875") O.D. pre-galvanized tubing, and 42.2mm (1.625") O.D. pre-galvanized tubing. Enclosures shall be fabricated from 33 mm (1.315") O.D. pre-galvanized steel tubing and 3 mm (11 ga) pre-galvanized sheet steel. Climbers and enclosures shall be painted per PPLT PAINT Specification. NATURETEK material is a Polyester Composite: Color impregnated, UV stabilized, non-mold-supporting, formed from virgin corrosion-resistant polyester resin; with 1/2- to 3/4- inch (12 to 18 mm) wall thickness, with the following characteristics: Flexural Strength, ASTM D 790: 18,000 psi. ; Tensile Strength, ASTM D 638: 9,000 psi. ; Compressive Strength, ASTM D 695: 17,000 psi.; Barcol Hardness, ASTM D 2583: 40 minimum.
14. SQUARE VINYL CLAD METAL DECK shall cover a minimum of 1.46 square meters (2,275 square inches) of top surface area, be a one-piece construction and be designed to maintain a full 1.2 m (48") on center post spacing. Metal decks shall be fabricated from 11 gauge hot rolled steel which shall be punched, formed and reinforced with welded in place 11 gauge strips and 7 gauge plates. Decks shall have a pattern of equally spaced holes on each edge to provide flush mounting of play events that attach to the deck. This hole pattern shall allow multiple decks to be assembled at the same level providing a surface without size limitations. This assembly shall be coated per PPLT PVC Specification.
15. STEEL AND STEEL MESH SQUARE ROOF shall consist of 4 pieces to be fabricated from 16 gauge pre-galvanized sheet steel with the mesh version containing 76 mm (3") x 6 mm (.25") slots punched in a regular pattern. The cupola shall be fabricated from 16 gauge pre-galvanized sheet steel and is installed using a 20.6 mm (.83") O. D. spacer. After fabrication the roofs shall be painted per PPLT PAINT Specification.
16. STEEL STORE FRONT shall be fabricated from pre-galvanized, punched 3 mm (11 gauge) sheet steel welded to pre-galvanized 33 mm (1.315") O.D. and 25.4 mm (1.0") O.D. steel tubing. Steel store front shall consist of two components: a counter and top section which can be used together to simulate a store or used independently. After fabrication the components shall be painted per PPLT PAINT Specification.
17. Team Totter cylinders shall be rotationally molded per PPLT ROTO Specification and shall be bolted to side panels. Side panels shall be constructed from 3/4" (19mm) thick high density polyethylene with design routed on the front. Seats and optional back constructed from 18mm Eko Grip slip resistant polyethylene. The main Frame is to be fabricated from 80mmX80mmX4mm SHS Square Hollow Section, 80mmX40mmX4mm RHS Rectangular Hollow Section, 40mmX40mmX3mm SHS and 30mmX30mmX3mm SHS. Handrail and footrail are fabricated 33.7mm Dia. X 3mm tubing. The spring sub-assembly has vandal

resistant hardware and consists of a galvanized base plate and top, with wound wire springs. All steel components shall be painted per PPLT PAINT Specification.

18. TRANSFER STATION WITH GUARD RAIL shall consist of two triangular decks and step assemblies for the handrails. Each triangular deck shall be fabricated from 11 gauge sheet steel, covering .37 square meters (575 square inches) and have three 25 x 152 mm (1" x 6") hand slots incorporated into the deck surface for aid in user transition. The step assemblies provide access from the transfer decks to a 915 mm (36"), 1016 mm (40"), 1220 mm (48"), 1422 mm (56"), 1625 mm (64") deck height. Each step shall have a tread depth of 406 mm (16") and a tread width of 953 mm (37.5"), with each rise 203 mm (8") or less. Each step assembly shall have an all welded construction from 13 gauge sheet steel. Each step assembly and Transfer Deck shall be coated per PPLT PVC Specification. Transfer Station Guard Rails shall be fabricated from 33 mm (1.315") O.D., pre-galvanized, 11 gauge tubing. Transfer Station loops shall be fabricated from 42.2 mm (1.66") O.D., pre-galvanized, 11 gauge tubing. All welded handrail assemblies shall be painted per PPLT PAINT Specification.
19. TUNNEL SLIDE shall be configured to approximately a 762 mm (30") internal diameter cross section. Tunnel slides shall be assembled using an overlap joint on section connections and shall not have any internal hardware. Tunnels, elbows and panels shall be rotationally molded per PPLT ROTO Specification. Tunnel slide end supports shall be fabricated from 38 mm (1.5") square, pre-galvanized steel tubing and mid supports shall be fabricated from 42.2 mm (1.66") O.D. pre-galvanized steel tubing. Both supports shall be painted per PPLT PAINT Specification.
20. VINYL CLAD HALF DECK shall cover a minimum of .73 square meters (1,138 square inches) of top surface area and be a one-piece construction. Metal decks shall be fabricated from 11 gauge hot rolled steel which shall be punched, formed and reinforced with welded in place 11 gauge strips and 7 gauge corner plates. Decks shall have a pattern of equally spaced holes on each edge to provide flush mounting of play events that attach to the deck. This hole pattern shall allow multiple decks to be assembled at the same level providing a surface without size limitations. This assembly shall be coated per PPLT PVC Specification.
21. Steel Tubing: Tubing shall be cold rolled, electric resistance welded tubing. All tubular products shall be polyester powder coated after hot-dipped electric zinc galvanized coating. Tubing interior shall have a corrosion resistant, zinc-rich paint coating. Typical footing dimension is 30" deep by 16" wide.
22. Aluminum Tubing: Tubing (Support Post and Sleeve) shall be extruded 6061-T6 extruded seamless aluminum alloy tubing. Aluminum Tubing shall be an all welded assembly fabricated of 6063-T4 extruded seamless aluminum alloy tubing, Typical footing dimension is 30" deep by 16" wide.
23. Rotationally Molded Plastic Parts: molded from color-compounded, liner low density polyethylene. Dry-blended resins are not acceptable. Polyethylene shall be ultraviolet stabilized and anti-static additives; cross-sectional design shall be 4mm nominal thickness, double wall construction.

24. Polyester Powder Coat Finish: Aluminum component to be powder coated shall be free of weld spotter and washed in a hyper-clean system. Powder coating shall be electrostatically applied and oven cured for 15 minutes to thickness of 2 to 5 mils.
25. Hardware: All fasteners shall be stainless steel; tamper-resistant hardware is utilized on principal clamping mechanisms. Special tools shall be provided for assembly and maintenance by using drive rivets. Physical locking devices are used on all exposed and accessible connection points, such as lock nuts. Liquid thread-lock shall be used to hinder fastener removal.
26. Polyethylene Coating for decks and stairs shall be a skid resistant, ultraviolet stabilized and weather resistant thermoplastic polyethylene. The coating shall have approximate thickness of 45-55 mils on wear surfaces and 30 mils on all other surfaces. Coatings containing PVC and phthalate shall not be acceptable. Coating shall have the following performance properties: Property - Testing Method - Results Flexibility (conical mandrel) - ASTM D 522 - 1/8", no cracks (greater than 32%) Adhesion - ASTM D 4541 - 800 psi Impact Resistance - ASTM D 2794 - greater than 320 in-lbs Gloss - ASTM D 523 - 12 Taber Abrasion - ASTM D 4060 - 26 (mg loss, CS 17 wheel) Tensile Strength - ASTM D 638 - 3482 psi % Elongation - ASTM D 638 - 13% Humidity Resistance - ASTM D 2247 - No blistering or loss of gloss after 1000 hours Salt Spray - ASTM B 117 - 2000 hrs, no significant change in color or gloss QUV - ASTM G 53 - 2000 hrs, no significant change in color or gloss. Slip Resistance - Textured finish for enhanced traction. 0.74 coefficient of friction per ASTM1679.
27. Die Cast Clamps: Clamps shall be die cast of high strength 380 aluminum alloy. Tenzalloy (40-E, 315.0) is not acceptable as a load bearing clamp material. Ultimate tensile strength shall be 47 ksi. Clamps shall be provided as hinged assemblies to facilitate structure assembly. S-lap design to eliminate all string entanglement points at connection. Clamps are to be permanently fastened to the support post with a drive rivet to eliminate disassembly and slippage. Clamps shall have a baked on polyester power coat finish.

2.03 Pre-K Climber

- A. Play Structure Manufacturer: play climber shall be Kompan, Inc., 821 Grand Avenue Parkway, Pflugerville, TX 78660, 800-426-9788 or approved equal. (Model: PCM200304 – Double Tower, Physical). Alternative acceptable manufacturer: Little Tikes Commercial, Inc. represented by Jason Corbett, 878 E Highway 60, Monett, MO, 65708, 617-605-1980 or approved equal. Little Tikes model number 42846719264.
- B. General Play Components:
 1. Steel Posts shall be constructed of Ø101.6mm x 2mm stainless steel tubing that has been hot-dip galvanized per ISO 1461 and powder coated.
 2. Wood posts shall be constructed of Ø100 impregnated pine.
 3. Post Caps shall be constructed of injection-molded Polyamide 6 (PA6) that has been UV stabilized.

4. Footings shall be constructed of 93mm x 93mm extruded steel that has been hot dip galvanized per ISO 1461.
5. Footing Supports, Stair Risers and Primary Connectors shall be constructed of die-cast aluminum that has been alloyed for outdoor use.
6. Support Posts, Crossbars and Safety Bars be constructed of Ø38 x 2mm stainless steel tubing that has been hot dip galvanized.
7. Panels shall be constructed of 19mm high-density polyethylene (HDPE) that has been UV stabilized and contains at least 80% recycled content.
8. Floor Panels shall be constructed of 10mm high pressure laminate (HPL) that contains 25mm x 82mm machined slots near the edges for the purpose of hand support.
9. Steel Slides shall be constructed of stainless steel that has been hot dip galvanized and rolled at edges.
10. Plastic Slides shall be constructed of 5mm rotomolded medium-density polyethylene (PE) that has been UV stabilized.
11. Nets and Ropes shall be constructed of polypropylene (PP) with inner steel cable reinforcement and tensile strength of at least 5500 lb.
12. Net Spacers and Connectors shall be constructed of injection-molded polyamide (PA) that has been UV stabilized.
13. Net Brackets shall be constructed of die-cast aluminum that has been alloyed for outdoor use.
14. Curly Climber shall be constructed of Ø38mm x 2mm stainless steel tubing that has been hot dip galvanized.
15. Black Flaps shall be constructed of synthetic rubber (PUR, TPE, TPU or EPDM).
16. Manipulatives and Megaphones shall be constructed of injection molded polypropylene (PP) that has been UV stabilized.
17. Fittings and Do-Nuts shall be constructed of injection-molded polyamide (PA) that has been UV stabilized.
18. All Hardware and Fasteners shall be constructed of stainless steel that has been hot-dip galvanized per ISO 1461 and protected with thread lock at each connection.
19. PVC (vinyl, plastisol) shall not be present on any portion of the play equipment.

2.04 Slope Net Climber

- A. Play Structure Manufacturer: play climber shall be by Corocord, represented by Kompan, Inc., 821 Grand Avenue Parkway, Pflugerville, TX 78660, 800-426-9788 or approved equal.
- B. General Play Components:
 - 1. Post Clamps shall be constructed of cast aluminum.
 - 2. Cables shall be constructed of six strands of galvanized steel wire, wrapped with polyamide yarn. The polyamide wrapping shall be inductively fused onto each strand individually, so that after initial friction has removed the surface fibers, a harder polyamide coating remains to protect each strand.
 - 3. Rope Separator Bars shall be constructed of 45mm O.D. aluminum with EPDM rubber end caps.
 - 4. S Clamps shall be constructed of 8mm diameter, type 4571 stainless steel.
 - 5. Colored Membranes shall be constructed of 7.5mm EPDM rubber with excellent UV resistance, embedded with woven polyester.
 - 6. Fasteners shall be constructed of stainless steel or brass.
 - 7. The Black Membrane shall be constructed of 8mm EPDM rubber with excellent UV resistance, embedded with woven polyester.
 - 8. Anchor Bars and Turnbuckles shall be constructed of hot dip galvanized steel.

2.05 Basket Swing

- A. Basket swing manufacturer: basket swing shall be by Kaiser & Kuhne Freizeitgerate, Inc., represented by Goric Marketing Group, Inc., 464 Common Street #148, Belmont, MA, 02478, 617-744-0772 (Model: 0-40335-000 Basket Swing 2 – small) or approved equal.
- B. General Components:
 - 1. SWING POST: swing post shall be powder coated, hot dip galvanized steel
 - 2. SWING CROSSBEAM: swing crossbeam shall be powder coated, hot dip galvanized steel
 - 3. SWING AXEL: swing axel shall be maintenance free friction bearing with integrated swivel device
 - 4. SWING CHAIN: swing chain shall be stainless steel
 - 5. SAFETY SWING SEAT: safety swing seat shall be black rubber

2.06 Viking Swing

- A. Viking swing manufacturer: basket swing shall be by Kaiser & Kuhne Freizeitgerate, Inc., represented by Goric Marketing Group, Inc., 464 Common Street #148, Belmont, MA, 02478, 617-744-0772 (Model: Viking Swing 2.5 – small) or approved equal.
- B. General Components:
 - 1. SWING POST: swing post shall be powder coated, hot dip galvanized steel
 - 2. SWING CROSSBEAM: swing crossbeam shall be powder coated, hot dip galvanized steel
 - 3. SWING AXEL: swing axel shall be maintenance free friction bearing
 - 4. SWING CHAIN: swing chain shall be stainless steel
 - 5. SAFETY SWING SEAT: safety swing seat shall be braided polypropylene fiber

2.07 Seesaw

- C. Seesaw manufacturer: seesaw shall be by Kompan, Inc., 821 Grand Avenue Parkway, Pflugerville, TX 78660, 800-426-9788 or approved equal. (Model: M186 - Garden Seesaw)
- D. General Seesaw Components:
 - 1. The seesaw shall be a spring-centered seesaw utilizing four springs centered about a dualpivot point.
 - 2. Springs shall be constructed of steel that meets DIN 17221 and subjected to shot peening to prevent crack formation and fatigue fracture.
 - 3. Beams shall be constructed of a formed, hot-dip galvanized steel channel with 2.5 mm wall thickness.
 - 4. Seat Panels shall be constructed of 17.8 mm high-pressure laminate. Side Panels shall be constructed of 19 mm HDPE. The Handgrip shall be constructed of a 38 mm O.D. UV-stabilized polypropylene tube, ribbed for easy gripping, over an internal galvanized steel pipe.
 - 5. The Footrest shall be constructed of AISI 304 stainless steel tubing with 38 mm O.D. and 2 mm wall thickness.

6. All Hardware shall be constructed of stainless steel or Delta coated for corrosion protection. PVC (vinyl, plastisol) shall not be present on any portion of the play equipment.

2.08 Sensory Panels

- A. Sensory Panel manufacturer: panels shall be by Playworld, Inc., represented by Joseph McMahon at Ultiplay Parks and Playgrounds, P.O. Box 374 Uxbridge, MA 01569 508-294-6518, or approved equal.

- B. Parts:

<u>Part #</u>	<u>Description</u>
200111492	LABEL, IDENTIFICATION STAMPED W/RIVETS
200200118	POST PLUS 7' W/CAP F/KB
200200505	PANEL REACH ABACUS F/KB
200201182	KB 7' GALV POST PLUS W/ALUM CAP
200201818	KB BONGO PANEL FREE-STAND 2-5

- C. General Panel Components:

1. Plastic Caps shall fit snugly into 127 mm (5") and 33 mm (1.315") tube ends and shall be injection molded Low Density Polyethylene. This plastic shall be stabilized against ultraviolet (UV) degradation and shall have color molded in. All caps will be installed at the factory and 127 mm (5") caps will be secured with aluminum hammer drive pins.
2. Aluminum Caps shall fit snugly into 127 mm (5") tube ends. The Aluminum cap shall be made from SAE 413 aluminum with a minimum wall thickness of 4 mm. Prior to insertion into the post, all caps shall be painted per PPLT PAINT Specification. All caps will be installed at the factory and 127 mm (5") caps will be secured with aluminum hammer drive pins.
3. PPLT PAINT Specification: Primer shall be electrostatically applied and cured in an infrared oven. Paint shall be an electrostatically applied polyester TGIC (triglycidyl isocyanurate) powder coating which shall be cured at temperatures between 400 and 500 degrees Fahrenheit. The thickness of the combined primer/paint shall be between 5 mils and 11 mils. The polyester powder shall comply with ASTM standards: D-2794 (Impact Resistance Test), B-117 (Salt Spray Resistance Test), G26 (Weatherability Test), and D3359B (Adhesion Crosshatching Test).

4. Rotationally Molded Plastic Specification: Parts shall be molded from linear low density polyethylene with ultraviolet (UV) light stabilizers, anti-static guard (for Molding purposes) and color molded in. This material shall comply with ASTM-D-790 (Flex Modulus), ASTM -D-638 (Tensile Strength), ASTM-D-648 (Heat Deflection Temperature), ARM-STD (Low Temperature Impact) and rated UL 94.
5. PPLT PVC Specification: Textured Poly-Vinyl-Chloride coating shall be an average of 3 mm (.125") thick. Poly-vinyl-chloride coating shall be oven cured and textured for added traction when wet or dry.
6. Hardware: Bolts, Nuts, Screws, Threaded Spacers, Washers and Other Hardware used in the assembly of components shall be metric stainless steel and tamper resistant. All necessary hardware shall be provided.
7. Deck Clamp assemblies shall consist of two steel half-clamps. Clamp profiles shall be designed to eliminate protrusions. Clamps shall be die formed from 12 gauge HRPO steel. Clamps shall have a 6 mm (.25") radius rib formed in the top and bottom of the clamp for structural integrity. The clamp attachment bracket shall be formed from 11 gauge sheet steel and shall be welded securely to the clamp half. All clamp halves shall be zinc plated, yellow dichromate coated and phosphate coated before being TGIC (triglycidyl isocyanurate) polyester powder coated. Tamper-resistant fasteners shall be used to retain clamps and shall consist of M10 six lobe socket head stainless steel cap screws and M10 slab-base Tee nuts. All clamps shall be provided with aluminum hammer drive pins to protect against slippage.
8. Rail Clamp assemblies shall consist of two steel half-clamps. Clamp profiles shall be designed to eliminate protrusions. Clamps shall be die formed from 12 gauge HRPO steel. Clamps shall have a minimum 6 mm (.25") radius rib formed in the top and bottom of the clamp for structural integrity. All clamp halves shall be zinc plated, yellow dichromate coated and phosphate coated before being TGIC (triglycidyl isocyanurate) polyester powder coated. Tamper-resistant fasteners shall be used to retain clamps and shall consist of M10 six lobe socket head stainless steel cap screws and M10 slab-base Tee nuts. All clamps shall be provided with aluminum hammer drive pins to protect against slippage.
9. Wing and Panel Clamp assemblies shall consist of two steel half-clamps. Clamp profiles shall be designed to eliminate protrusions. Clamps shall be die formed from 12 gauge HRPO steel. Clamps shall have a 6 mm (.25") radius rib formed in the top and bottom of the clamp for structural integrity. The clamp wing bracket shall be formed from 7 gauge sheet steel and shall be welded securely to the clamp half. All clamp halves shall be zinc plated, yellow dichromate coated and phosphate coated before being TGIC (triglycidyl isocyanurate) polyester powder coated. Tamper-resistant fasteners shall be used to retain clamps and shall consist of M10 six lobe socket head stainless steel cap screws and M10 slab-base Tee nuts. All clamps shall be provided with aluminum hammer drive pins to protect against slippage.

10. All Steel Tube Components shall comply with ASTM standards: A-500, Or A-513. The steel tube components contain five layers including an inside galvanized coating, high tensile strength cold formed steel, hot dipped pure zinc meeting ASTM B-6 applied at 3.5 tenths of an ounce per square foot, and a proprietary conversion and advanced polymer coatings. The components are freed of excess weld spatter and shall be cleaned in a multiple bath system which shall include a rust-inhibitive iron phosphate wash prior to painting. Exceptions: 127 mm (5") O.D. aluminum posts.
11. Brackets shall be fabricated from punched and formed 4.5 mm pre-galvanized sheet steel. Gaskets shall be rubber injection molded from ultraviolet (U.V.) protected synthetic rubber. Rubber gaskets shall provide an aesthetic seal around the wonder fastener and bracket.
12. Footing for 127 mm (5") diameter upright posts shall be 305 mm (12") diameter x 940 mm (37") depth. Galvanized steel posts shall be 127 mm (5") O.D., 11 gauge pre-galvanized round tubing. Minimum tensile strength shall be 330MPa (48,000 psi). Minimum yield point shall be 310MPa (45,000 psi). The bottom portion of all upright posts shall be crimped slightly.

D. Components Specifications:

1. GAUGE GALVANIZED STEEL POST shall be 127 mm (5") O.D., 11 gauge pre-galvanized round tubing. Minimum tensile strength shall be 330MPa (48,000 psi). Minimum yield point shall be 310MPa (45,000 psi). Plastic caps shall fit into the uncrimped end of the 127 mm (5") tube. After fabrication, all posts shall be painted per PPLT PAINT Specification.
2. BONGO PANEL and its subcomponents shall be rotationally molded per PPLT ROTO Specification. The Bongo Panel post shall be fabricated from 89mm (3.5") 11 gauge in-line galvanized tube and connect to the panel with welded on 11 gauge tabs made from pre-galvanized sheet steel. After fabrication all post assemblies shall be painted per PPLT PAINT Specification.
3. FIRE TRUCK BUMPER/STEERING PANEL shall be rotationally molded per PPLT ROTO Specification. The grill in the steering panel shall be fabricated from 1/2" high density polyethylene sheet.
4. Identification label shall be fabricated from aluminum sheet .016" (4 mm) thick and attached with aluminum pop rivets.
5. KB REACH ABACUS PANEL shall be fabricated from a combination of 33.4 mm (1.312") O.D. pre-galvanized steel tubing, 25.4 mm (1") O.D. pre-galvanized steel tubing, and laser cut plates fabricated from 3.0mm (11 gauge) pre-galvanized sheet steel. Spheres shall be molded per PPLT ROTO Specification. Each of the polyethylene spheres shall be 67 mm (2.64") in diameter and be molded in red and yellow. Panels/rails shall be painted per PPLT PAINT Specification.

2.09 EPDM Half Balls

- A. EPDM Half Balls manufacturer: half balls shall be by Euroflex, Inc., represented by Goric Marketing Group, Inc., 464 Common Street #148, Belmont, MA, 02478, 617-744-0772 or approved equal.
- B. General Panel Components:
 - 1. Materials: Rubber granulate shall be 90% recycled rubber. Binding agent shall be MDI polyurethane. Topping shall be colored EPDM rubber granulate.
 - 2. Dimensions: diameter shall be 345, 500, and 695mm as shown on the drawings. Steel anchors shall be ~42.8mm and ~750mm in length.
 - 3. Installation: Half ball shall be glued directly onto the accompanying steel mounting anchor with polyurethane glue. Mounting anchors shall be directly embedded into a concrete footing. Footing for 350mm diameter half ball shall be 305 mm diameter x 500 mm depth. Footing for 500mm diameter half ball shall be 500 mm diameter x 500 mm depth. Footing for 695mm diameter half ball shall be 695 mm diameter x 500 mm depth. Minimum tensile strength shall be 330MPa (48,000 psi). Minimum yield point shall be 310MPa (45,000 psi).

2.10 Embankment slide

- C. Embankment slide manufacturer: embankment slide shall be by Kaiser & Kuhne Freizeitgerate, Inc., represented by Goric Marketing Group, Inc., 464 Common Street #148, Belmont, MA, 02478, 617-744-0772 or approved equal.
- D. General Components:
 - 1. Installation height: 2.40m (7'-11")
 - 2. Angle of chute: 36 degrees
 - 3. Width of chute: 0.6m (~2')
 - 4. Materials: mechanically polished, 2.5 mm thick stainless steel 304 (WST 4301)
 - 5. Course: Straight
 - 6. Installation: Embankment slide shall be directly bolted into concrete footings. Accompanying slide-support using Rubber granulate shall be 90% recycled rubber. Binding agent shall be MDI polyurethane. Topping shall be colored EPDM rubber granulate.

2.11 Basketball Posts and Goals

- A. Basketball post and goal manufacturer shall be Jaypro Sports 976 Hartford Turnpike, Waterford, CT 06385 800-243-0533, or approved equal.
- B. Provide basketball posts and goals as indicated on the Drawings.
- C. Product shall be model 996 with 4.5-inch galvanized steel gooseneck post with 51-inch offset. Board shall be model ALB-24BT cast aluminum fan shaped 36"x54"x1.5" painted white with official orange border and target. Goal shall be model UBG-500 Ultimate Playground fixed rim.

2.12 Wood Play Stumps

- A. Furnish black locust wood play stumps as indicated on the drawings.

2.13 Big Blue Blocks Set

- A. Furnish and deliver one 105 piece Big Blue Blocks Set as distributed by Imagination Playground 5 Union Square West, New York, NY 10003 678-604-7466.
- B. Furnish and deliver one weatherproof, lockable polyethylene storage container of sufficient size to store all blocks easily.

PART 3 - EXECUTION

3.01 Play Equipment

- A. All play equipment shall be installed in accordance with the Drawings and per the manufacturers' recommendations. Provide safety use zones in accordance with CPSC and ASTM standards.
- B. Install basketball posts, boards and goals as indicated on the Drawings and in accordance with the manufacturer's installation instructions.
- C. Footings
 - 1. The Contractor shall do all necessary excavation required for the installation of all equipment. Excavation shall be defined as the digging of all required footings and the removal of all materials encountered (footings, pavements, earth, boulders, broken concrete pieces, etc.) while digging those footings.
 - 2. Concrete footings shall meet the specifications for concrete as specified under 32 13 13 of these specifications. The top of footings shall not extend into the full depth of safety surfacing specified. The footing for Rock Climber shall be an 8" thick concrete slab 6' x 10". The top of slab shall be set 15" below finished grade so that the step in the rock is flush level with the 48" play structure deck.

3. Wood stumps area shall be backfilled with freely-draining, compacted gravel at the minimum depth indicated on the Drawings or at greater depth as required to hold them securely in place.
- D. Equipment shall be assembled to conform to the approved shop drawings. All fastenings shall be made as shown on the approved shop drawings and shall be securely tightened. All work shall be done so that no hazardous projections remain on the finished work.
- E. Install wood play stumps as indicated on the Drawings.
- F. Cleanup: Upon completion of the work under this Section, all excess materials and debris resulting from work under this Section shall be cleaned up, removed from the Site, and properly disposed.
- G. Manufacturer's Guarantees and Insurance
 1. Product Liability Insurance: The manufacturer of the playground equipment shall maintain, and have in effect at the time of the completed installation, an insurance policy covering completed operations (Product Liability) with a minimum limit of \$1,000,000.00 (One Million Dollars). A certificate of insurance shall be available to the project owner on request.
 2. Guarantees: The manufacturer shall furnish a written guarantee, covering the replacement of any damaged Structures or components, at no extra charge for the period of 15 (Fifteen) years. This guarantee does not cover Structures damaged by improper use or vandalism. Labor is not covered in this guarantee.
- H. Warranties
 1. Lifetime Limited Warranty for all stainless steel fasteners, steel and aluminum posts, clamps, beams and caps, against structural failure due to corrosion/natural deterioration or manufacturing defects. This warranty does not include any cosmetic issues or wear and tear from normal use.
 2. 15-Year Limited Warranty on all perforated steel decks and stairs, steel rails, loops and rungs, sheet steel, rotationally-molded and sheet plastic components, recycled plastic lumber and Playweb tubular steel parts.
 3. 10 Years on fiberglass signage, Rock Blocks Handholds and steel-core cable.
 4. The Contractor shall warrant that all structures and/or equipment installed will conform in kind and quality to the specifications set forth above, and will be free of defect in workmanship and material.
 5. The Contractor shall offer a 10-year limited warranty for all aluminum and all posts, clamps, beams, and caps against structural failure due to corrosion, deterioration, or workmanship (cosmetic issues excluded).

6. The Contractor shall offer a 10-year limited warranty for all plastic and steel components against structural failure due to corrosion, deterioration, or workmanship (cosmetic issues excluded).
7. The Contractor shall offer a 1-year limited warranty for all moving parts, swing seats and swing hangers bumpers and other equipment not included above against failure due to corrosion, deterioration, or workmanship.
8. An authorized representative of the play equipment manufacturer must inspect and approve the completed installation. The play equipment will not be accepted by the play equipment manufacturer or the Owner until they are satisfied with the installation. No additional compensation will be given for any necessary corrective work. Contractor shall submit written certification from Manufacturer's Representative that all play equipment has been installed in accordance with manufacturer's prescribed standards.

END OF SECTION

31 00 00 – EXCAVATION, FILLING AND GRADING

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions of the Contract, including Division 00 and Division 01, apply to the work under this Section.
- B. The Contractor shall prior to any removal of surplus fill, excavated material, or debris from the site, furnish written evidence satisfactory to the owner or owner's representative that he has an approved dumping location for debris and/or spoil from his/her excavation activities.

1.02 Work Included

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform Earthwork as shown on the Drawings and as specified herein.
 - 1. Excavating, filling, trenching and backfilling of all descriptions required for the construction of pavements, safety surfaces, equipment, site improvements, utilities, filling voids left by hardscape and plant removals, and all specialties. Provide all additional fill materials as required and specified herein.
 - 2. Pumping and/or bailing necessary to maintain excavated spaces free from water from any source whatsoever.
 - 3. Dust control.
 - 4. Provide graded materials, as specified, for fills, base courses and backfills as required.
 - 5. Rough grading.
 - 6. Perform all compaction of fill materials as hereinafter specified.
 - 7. Obtain all required permits, licenses and approvals of appropriate municipal and utility authorities prior to commencing work, pay all costs incurred therefrom.
 - 8. If subgrade is deemed unsuitable for placement of subbase material, backfill w/ processed gravel. Work under this Section shall include the excavation of 20 cubic yards of unsuitable material beyond the line and grades as shown on drawings, and as determined by the Landscape Architect. Such removals shall be measured by a Civil Engineer or Land Surveyor employed by the Contractor and verified by the Landscape Architect. No unsuitable material removals shall be credited to the Contractor without prior measurements and verifications.
- B. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades

and all departments of the City of Somerville and coordinate all work under this Section therewith.

C. The following related items are included under the Sections listed below.

1. Section 02 41 00 – Site Preparation and Demolition
2. Section 32 12 16 – Asphalt Paving
3. Section 32 13 13 – Concrete
4. Section 32 16 00 - Curbing
5. Section 32 30 00 – Site Improvements
6. Section 32 31 00 – Fences and Gates
7. Section 32 90 00 – Planting
8. Section 33 49 23 – Drainage Systems

1.03 Submittals

- A. Submit certified gradation test data for borrow materials a minimum of one week prior to delivery to the site.
- B. Provide 50-pound samples of each material to a qualified laboratory for moisture density testing a minimum of one week prior to delivery to site.
- C. Compaction test of subbase materials after installation and compaction and before surface material is installed.

1.04 Laws, Ordinances, Permits and Fees

The Contractor shall:

- A. Give necessary notices, obtain all permits and pay all governmental taxes, fees and other costs in connection with this work, file all necessary plans, prepare documents and obtain all necessary approvals.
- B. Obtain all required certificates of inspection for this work and deliver same to the Landscape Architect before request for acceptance and final payment for the work.
- C. Include in the work, without extra cost to the Owner, any labor, materials, services, apparatus, drawings (in addition to contract drawings and documents) in order to comply with all applicable laws, ordinances, rules and regulations of the City of Somerville and the Commonwealth of Massachusetts, whether or not shown on the Drawings and/or specified.
- D. The Contractor shall provide a temporary sidewalk whenever a sidewalk is closed because of the construction. This temporary sidewalk must be at the same level as the existing closed sidewalk and it must be visually partitioned off from the street and work area. The Contractor shall so conduct his operations as to interfere as little as possible with roads, driveways, alleys, sidewalks, or other nearby facility.

1.05 Definitions

- A. The following related items are included herein and shall mean:
1. S.S.H.B. - Standard Specifications for Highways and Bridges, the Commonwealth of Massachusetts, Department of Transportation, latest edition
 2. A.S.T.M. - American Society for Testing and Materials
 3. A.A.S.H.T.O. - American Association of State Highway and Transportation Officials
- B. "Excavation" consists of removal of material encountered to subgrade elevations indicated and disposal of materials removed.
- C. "Finished grades" as used herein shall mean the required final grade elevations indicated on the Drawings. Spot elevations shall govern over proposed contours. Where not otherwise indicated, project site areas shall be given uniform slopes between points for which finished grades are indicated or between such points and existing established grades.
- D. "Base Course" as used herein is the placed and compacted material immediately below the finish grade material to the thickness indicated on the Drawings.
- E. "Subgrade" as used herein means the naturally occurring or placed and compacted material below the base course.
- F. "Trench Excavation" is defined as an excavation of any length where the width is less than twice the depth and where the distance between the pay lines does not exceed ten feet.
- G. "Open Excavation" is defined as all other excavation.
- H. "Unauthorized excavation" is defined as excavation beyond approved measurement lines.
- I. "Unsuitable materials" are soils containing organic matter, materials subject to attack from termites, materials subject to decomposition, soils too wet to be stabilized, frozen materials and existing materials that do not satisfy the product specification herein. Weak or soft material resulting from any of the Contractor's operations shall not be considered "unsuitable material".
- J. "Excess material" is any excavated material that is not needed for the construction of project elements. The removal of excess material from the site shall be included in the Base Bid Contract.
- K. Rock excavation shall be defined as solid, continuous rock or concrete mass, unable to be removed without mechanical measures and larger than 1 cubic yard in size. All other rock shall be unclassified excavation included in the contract bid price.

1.06 Bench Marks and Engineering

- A. Lines and grade work in accordance with Drawings and Specifications shall be laid out by a registered Civil Engineer or registered Surveyor employed by the Contractor. The Contractor shall establish permanent bench marks, to which access can easily be had during the progress of the work. The Contractor shall maintain all established bounds and bench marks and replace, as directed, any which may be disturbed or destroyed. The selection of the registered Civil Engineer or Surveyor shall be approved by the Landscape Architect.
- B. The Contractor shall submit written confirmation of dimensions and elevations on the ground and report any discrepancies immediately to the Landscape Architect. Such confirmation shall bear the Engineer's registration stamp. Any discrepancies not reported prior to construction shall not be the basis of claims for extra compensation.
- C. The General Contractor shall not commence any excavation or construction work, until the Landscape Architect's verification has been received and approved by the Official.

1.07 Subsurface Information

- A. Refer to Appendix A to this Section 31 00 00 – Excavation, Filling and Grading for the Geotechnical Report. This report identifies subsurface conditions observed at the time and locations indicated in the report. This subsurface information was obtained by the Geotechnical Engineer retained by the Owner for use in designing the project. The Owner, the Landscape Architect and the Geotechnical Engineer shall not be responsible for the interpretations or conclusions made by the Contractor based on this information. This Geotechnical Report is provided so that the Contractor can familiarize himself with the expected subsurface conditions when preparing his bid. If the Contractor encounters subsurface conditions considered to be different than those presented in the Contract Documents, the Contractor shall notify the Architect in accordance with the General Conditions.
- B. The Owner assumes no responsibility for the Contractor's failure to make his own site investigation and makes no warranty regarding the character of the soil or subsurface conditions which may be encountered during the performance of the work.

1.08 Finished Grades

- A. The words "finished grades" as used herein mean the required final grade elevations indicated on the Drawings. Where not otherwise indicated, site areas shall be given uniform slopes between points, for which finished grades are shown, or between such points and existing grade except that vertical curves or roundings shall be provided at abrupt changes in slope.

1.09 Grades and Elevations

- A. The Drawings indicate, in general, the alignment and finished grade elevations. The Landscape Architect, however, may make such adjustments in grades and alignment as are found necessary in order to avoid interference and to adapt the grading to other special conditions encountered.

1.10 Work in the Public Ways

- A. Notify the appropriate municipal officials at least seven calendar days in advance of commencing any work in the public ways to obtain all required permission to perform

this work. Perform all work in the public ways in a manner required by the municipal authorities.

- B. Should there be any conflict between requirements specified in the Contract Documents and those of the City of Somerville, the municipal requirements shall govern.
- C. Do not close or obstruct any streets or sidewalks unless and until they have been discontinued by the appropriate municipal authority or unless and until he shall have first secured all necessary or other permits therefor. No materials whatsoever shall be placed or stored in the streets. Conduct all operations to interfere as little as possible with the use ordinarily made of roads, driveways, sidewalks, or other facilities near enough to the work to be affected thereby.

1.11 Disposition of Existing Utilities

- A. Active utilities existing on the site shall be carefully protected from damage and relocated or removed as required by the work. When an active utility line is exposed during construction, its location and elevation shall be plotted on the Record Drawings and both the Landscape Architect and the Utility Owner notified in writing.
- B. Inactive or abandoned utilities encountered during construction operations shall be removed, plugged or capped in accordance with procedures of relative utility company or agency. The location of such utilities shall be noted on the Record Drawings and reported in writing to the Landscape Architect.
- C. Active utility lines damaged in the course of construction operations shall be repaired or replaced as determined by the Landscape Architect without additional cost to the Owner.
- D. Notify the Owner at least three (3) days in advance of the proposed time for shutting down or interrupting utilities or services which may affect operation of adjoining properties. Unless otherwise authorized by the Owner, schedule such interruptions on weekends, holidays, or before or after Owner's normal working day. In no case shall any services or utilities be interrupted prior to notification and authorization by the Owner.

1.12 Protection

- A. All rules and regulations governing the respective utilities shall be observed in executing all work under this Section. All work shall be executed in such a manner as to prevent any damage to existing streets, curbs, paving, service utility lines, structures and adjoining property. Monuments and bench marks shall be carefully maintained and, if disturbed or destroyed, replaced as directed.
- B. The Contractor shall perform the installation, maintenance and removal of all sheet piling, shoring and bracing required for the protection of all items of this Contract affected by the work of this Section.
- C. The Contractor shall furnish all facilities and materials necessary to prevent the earth at the bottom of excavation from becoming frozen or unsuitable to receive footing or other load bearing units.

- D. The work of this Section shall be performed in such a manner as to cause no interference with access by the Subcontractors or other Contractors to all portions of the site as is necessary for the normal conduct of their work.
- E. Protect all areas to remain undeveloped outside the Contract limit lines. Should these areas be damaged, the Contractor shall restore them to the satisfaction of the Landscape Architect and Owner at no additional cost to the owner. This includes the repairing and replacement of all damaged conditions such as plant materials and similar items.

1.13 Samples and Testing:

- A. All fill material and its placement shall be subject to quality control testing. Contractor will submit the name of a qualified laboratory to perform test on materials, for Approval by Landscape Architect. The Contractor will pay for all costs of testing. Test results and laboratory recommendations shall be available to the Landscape Architect. Submit one test for each material source proposed for use.
- B. Provide samples of each fill material from the proposed source of supply. Allow sufficient time for testing and evaluation of results before material is needed. Submit samples from alternate source if required. The Landscape Architect will be sole and final judge of suitability of all material.
- C. The laboratory will determine maximum dry density and optimum water content in accordance with ASTM D1557, Method D and the in-place density in accordance with ASTM D1556.
- D. Sampling and testing material delivered to the site shall be performed to ensure material conforms to approved submittals. Materials in question may not be used, pending test results. Compaction tests shall be performed on placed fill materials. Materials that do not conform to the specified physical or performance requirements shall be removed and replaced with acceptable materials at the Contractor's expense.
- F. Cooperate with laboratory in obtaining field samples of in-place materials after compaction. Furnish incidental field labor in connection with these tests.

PART 2 – PRODUCTS

2.02 Fill Materials

- A. Ordinary Fill
 - 1. All material to be placed where the Specifications or Drawings call for Ordinary Fill shall be well-graded, natural, inorganic mineral soil approved by the Landscape Architect and shall have the physical characteristics of soils designated as group A-1, A-2-4, or A-3 under AASHTO-M145.
 - 2. Ordinary Fill shall be free of organic or other weak or compressible materials, of highly plastic clays, of all materials subject to decay, decomposition or dissolution, of cinders or other materials which will corrode piping or other metal, of frozen materials, and of stones larger than 6 inches.

3. Ordinary Fill shall be of such nature and character that it can be spread and compacted to the specified density in a reasonable length of time.
4. Soil for use as Ordinary Fill shall contain no more than 35 percent by weight passing the No. 200 sieve.
5. It shall have a maximum dry density of one hundred pounds per cubic foot.

B. Gravel Borrow

1. All paving shall be installed over compacted graded gravel; all footings and all voids left from equipment removal shall be filled with compacted graded gravel.
2. All gravel fill shall meet the specifications of M1.03.1 "Processed Gravel for Subbase" in S.S.H.B. Submit sample and test results for approval.

Sieve Size	Percent Finer by Weight
2-inch	100
1/2-inch	50-85
No. 4	40-75
No. 50	8-28
No. 200	0-8

3. Refer to Top Drainage Stone description in this Section for permeability requirements.

C. Crushed Stone (Drainage Stone):

1. Drainage stone, or crushed stone, shall be 3/4" and (except where other size indicated on the Drawings) clean, angular stone of a hardness suitable for use in structural applications. 3/4" stone shall comply with M2.01.4 and 1/2" shall comply with M2.01.5 in S.S.H.B.

E. Filter Fabric

Filter Fabric used, as a drainage medium shall consist of a non-woven fabric made from polypropylene or polyethylene filaments or yarns. The fabric shall be inert to organic chemicals commonly encountered in the soil. The fabric shall conform to the following recommended property tests:

Property	Unit	Test Method	Minimum Value
Weight	oz/sy	ASTM D-3776-84	4.5
Grab Strength	lbs	ASTM D-4632-86	120
Grab Elongation	percent	ASTM D-4632-86	55
Trapezoid Tear Strength	lbs	ASTM D-4533-85	50
Mullen Burst Strength	psi	ASTM D-3786-80	210
Puncture Strength	lbs	ASTM D-4833-88	70
Apparent Opening Size (AOS)	U.S. std. Size Sieve	ASTM D-4751-87	70

PART 3 - EXECUTION

3.01 Grades and Elevations

- A. Establish the lines and grades in conformity with the Drawings. Establish and maintain suitable stakes or batters at points where spot elevations are given on the Drawings and at any other points to be graded as directed by the Landscape Architect. Maintain sufficient reference points at all times during construction to properly perform the Contract installation.

3.02 Excavation

- A. Prior to any excavation, contact DIG-SAFE at 1-888-344-7233 to identify subsurface utilities within the work area.
- B. General
 1. Excavate all material to the elevations, dimensions and form as shown on the Drawings and as specified for the construction of site improvements and other structures necessary for the completion of the utilities and site work. All unsuitable materials within the indicated and specified limits shall be excavated and removed at no additional cost to the contract as specified in 1.02 (B-8) of this section. Any quantities involving an extra or other adjustment of the Contract Price shall be subject to measurement verification and approval by the Landscape Architect prior to the excavation and removal of such materials. Unsuitable materials shall include the following:
 - a. Utility structures, building foundations and other man-made structures.
 - b. Peat, organic silt and other organic materials subject to decomposition, consolidation or decay.

c. Miscellaneous fill including cinders, ash, glass, wood, and metal.

2. In general, the Contractor shall be permitted to use machine excavation except for the final six (6) inches under footings, foundations, utility lines and structure, which shall be hand work.
3. If any part of the excavation is carried through error beyond the depth and dimensions indicated on the Drawings or specified herein, or if the foundation soils are disturbed by dewatering or other construction operation, the Contractor shall, at his own expense, refill with structural fill compacted to ninety-five (95) percent of the maximum dry density at optimum moisture content.
4. When excavation has reached the prescribed depth, the Landscape Architect shall be notified and will make an inspection of the condition and approve the placing of fill material.
5. The Contractor shall obtain from the proper authorities locations of all utilities within the scope of this work so that there will be no damage done to such utilities. Neither the Owner nor the Landscape Architect will be responsible for any such damage, and the Contractor shall restore any structure or utility so damaged without additional compensation. Attention is called to that fact that there are electric lines, and other utilities in certain locations within and adjacent to the sites. Written notifications to the appropriate utility agencies shall be made at least ten (10) days prior to the commencement of any work.
6. Wherever culverts, sewers, drains, manholes, catch basins, catch basin connections, water mains, valve chambers, utility tunnels, gas pipes, electric and telephone conduits, house service connections of any other underground constructions are encountered in excavating for utilities or any other site work, they shall be protected and firmly supported by the Contractor, at his own expense, until the trench is backfilled and the existing structures are made secure. Injury to any such structures caused by or resulting from the Contractor's operations shall be repaired at the Contractor's expense. The authority having charge of any particular underground structure shall be notified promptly of damage to its structure.
7. Excess material - Suitable excavation material which is allowable for fill and backfill shall be separately stockpiled as directed by the Landscape Architect. All surplus fill other than that required to complete the intent of the Contract shall become the property of the Contractor and shall be legally disposed of off the property. All excavated materials which, in the opinion of the Landscape Architect are not suitable for fill and backfill shall be removed and legally disposed of off the property.
8. Any unsanitary conditions encountered, such as broken sewer mains or uncovered garbage, shall be corrected or removed entirely as directed by the Landscape Architect.

C. Excavation for Site Improvements.

1. Excavate to the lines and grades shown on the Drawings and as specified to obtain the subgrades for the site improvements.

2. Trenching for all water and drain lines shall comply with the standards in S.S.H.B., specifically Section 150.64.
3. Existing service and utilities encountered shall be immediately repaired, protected and maintained in use until relocation of same has been completed or to be cut and capped where directed or be prepared for connection when so required.

3.03 Subgrade Preparation and Protection

A. General Requirements

1. All subgrade areas shall be made ready for fill by removal of all organic material, unsuitable soils and deleterious materials to firm natural ground as directed by the Landscape Architect.
2. Scarify, spot-fill, or otherwise treat the surface of areas to receive fill as necessary to remove holes, depressions, ruts, hummocks, or other uneven features.

B. Proof Rolling Subgrades

1. Prior to placement of fill, or bottom filter fabric where shown on drawings, proof roll natural ground by making a minimum of two passes with approved compaction equipment. Proof rolling may be waived by the Landscape Architect where excessively wet or saturated subgrade conditions are encountered.

3.04 Protection

- A. Protect open excavations with fencing, warning lights and other suitable safeguards. No open excavation shall be left without proper barriers and other devices necessary for public safety.
- B. Comply with local safety regulations or, in the absence thereof, with the provisions of the Manual of Accident Prevention in Construction of the Associated General Contractors of America, Inc. and O.S.H.A.
- C. Frost Protection - Make no excavation to the full depth indicated when freezing temperature may be expected unless the footing or slabs can be poured immediately after the excavation has been completed. Protect the bottoms as excavated from frost, if placing of concrete is delayed, with straw, tarpaulins or temporary heat until footings or slabs poured and backfill is placed.
- D. Any ditching required to keep the site free from water during construction is the responsibility of the Contractor.

3.05 Fill and Compaction

A. Compaction Equipment and Density Requirements

1. Compaction equipment, unless otherwise specified, shall consist of heavy vibratory rollers, such as a Raygo 400 or other compaction equipment approved by the Landscape Architect. Equipment shall make a minimum of

four (4) passes to achieve compaction as specified; to provide an evenly dense and compacted thickness throughout. All ruts shall be filled, the surface even and compacted to the density called for. The Landscape Architect retains the right to disapprove the use of any equipment that does not meet the above Specifications or perform the work as intended. Any modifications of equipment or method must be approved by the Landscape Architect.

2. Fill material under pavements and structures shall be compacted to ninety-five (95) percent of maximum density(s) determined by A.S.T.M. Test Designation D-1557, Method D or A.S.T.M. D-1556. For fill to 30" depth within seeded and planted areas compact portion of fill for planting to at least 80 percent but not more than 90 percent of the material's maximum dry Proctor density
 - a. Fill material under synthetic turf shall be compacted to. 92% min - 95% max of maximum density(s) determined by A.S.T.M. Test Designation D-1557, Method D or A.S.T.M. D-1556
3. Refer to 1.13 in this Section for testing requirements.

B. Placing Fills and Compacting

1. Notify the Landscape Architect when excavation is ready for inspection. Filling and backfilling shall not be started until conditions have been approved by the Landscape Architect.
2. Fill material shall be placed in horizontal layers not exceeding six (6) inches. Each layer shall be compacted to the percentage of maximum dry density specified for the particular type of fill and at a water content equal to optimum dry density and optimum water content shall be as specified herein.
3. Where water content of the fill must be adjusted to meet this Specification, the fill shall be thoroughly disked to insure uniform distribution of any water added.
4. Areas to be filled or backfilled shall be free of construction debris, refuse, compressible or decayable materials and standing water. Do not place fill when materials or layers below it are frozen.
5. In confined areas adjacent to footings and foundation walls and in utility trenches, the fill shall be compacted with hand-operated vibration tampers. The maximum lift thickness shall be four (4) inches. The degree of compaction attained shall be equivalent to that attained in the adjacent open areas where heavy rolling equipment is used. Any areas which subsequently settle shall be refilled to true subgrade and properly compacted.

3.06 Grading

- A. Do all grading required for the work including shaping, trimming, rolling and finishing of the surface of the subgrades for all surfaces. All ruts shall be eliminated. Grading for subgrades for paved areas and synthetic turf shall be finished at the required depth below and parallel to the proposed surface within 1/4" in 10'-0" tolerance.
- B. If, during the progress of rough grading work, any water pipe, sewer, conduit, drain, or other construction is damaged as a result of operations under this Contract, the

Contractor shall repair all such damage at no additional cost to the Owner and restore work to its original condition.

- C. Do all other cutting, filling and rough grading to the lines and grades indicated on the Drawings. Grade evenly to the finished grades shown on the Drawings. No stone larger than 2" in largest dimension shall be placed in upper 6" of fill.
- D. Complete grading operations after site improvements are constructed, and all materials, rubbish and debris removed from the site. Leave subgrade for planting clean at required grades. Provide sufficient grade staking to witness correct lines and grades, as determined by the Landscape Architect.
- F. Where streets or sidewalks within or outside the limit of Contract lines have been excavated in fulfilling the work required under this Contract, the Contractor shall furnish and install all material necessary to bring finish surfaces level with the existing adjacent surfaces. All work shall be installed to match the existing conditions in accordance with the governing authority. Notify the proper authorities prior to restoring surfaces outside the limit of Contract line.
- G. Tolerances

<u>Area</u>	<u>Max Grading Tolerance +/-</u>
1. Subgrade in landscaped areas prior to placement of loam	1/2"
2. Gravel base under pavement	1/4" in 10'

END OF SECTION



Briggs Engineering & Testing
A DIVISION OF PK ASSOCIATES, INC.

Warner Larson Landscape Architects
c/o Mr. David Warner
130 West Broadway
Boston, MA 02127

January 18, 2017
Briggs Project 29366

**RE: Proposed Athletic Court Investigations
at Winter Hill Community Innovative School (WHCIS)
Thurston Street, Somerville, MA**

Briggs visited the subject site at the request of the above client on May 20 and June 7, 2016 to assess soil conditions below the proposed pad foundation. Briggs viewed the open excavations and investigated soils below footing grade as detailed in this letter.

Project Description

Renovation of an existing asphalt paved area is proposed at the subject location. The area presently houses a basketball court and a smaller court, possibly a handball court. The proposed court appears to be soccer or lacrosse area and will be a synthetic field turf field. Reportedly the proposed field will bear on the existing gravelly fill covered with a few inches of finish aggregate fill.

Project Location and Topography

The proposed field re-construction is located at the southwest corner of Evergreen Avenue and Thurston Street on the northeast corner of the WHCIS property. The property and Evergreen Avenue slope down moderately to the east toward Thurston Street. The site has two steep slopes that create terraced play areas to the east of the school buildings. An asphalt-covered slope is located about 10 feet west of the existing basketball and handball court areas. The existing paved courts are accessed via Thurston Street via an asphalt paved driveway extending to the southeast corner of the paved court area. Refer to the attached Figure 1 for existing and proposed site features.

Test Pits and Subsurface Conditions

Briggs hand excavated four test pits identified at TP-1 through TP-4 near the four corners of the existing asphalt courts area as shown on attached Figure 1. The pits were dug on January 10 and 11, 2017 to depths of 22 to 26 inches below ground surface (BGS).

www.briggsengineering.com
Offices in Boston, MA and Cumberland, RI

100 Weymouth Street, Unit B1, Rockland, MA 02370
ph 781-871-6040, fax 781-871-7982

The pits revealed a base course clean gravelly sand fill over gravelly silty sands to bottom of excavations. Soil conditions are tabulated as follows:

<u>TP-1</u>	<u>TP-2</u>	<u>TP-3</u>	<u>TP-4</u>
	Asphalt Pavement		
7"	3"	4"	3.5"
Gravelly Sand Fill – f/c, some gravel, trace silt, grey, dense to very dense			
12 "		16"	
Gravelly Silty Sand Fill f/c, some gravel, little silt grey, very dense	22"	21" Glacial Till- f/c Sand, some gravel, some silt, olive grey, very dense 22" BOE	
24" BOE	26" BOE		24" BOE

Notes:

f/c means fine to coarse.

some means 20 to 35%.

little means 10 to 20%.

trace means less than 10%.

density is based on hand tool excavation effort and penetrometer tests.

BOE means Bottom Of Excavation depth.

No groundwater seepage was noted in any of the test pits.

Laboratory Tests

Briggs submitted three soil samples for gradation (sieve) tests. The results of gravel, sand and silt content are tabulated as follows:

<u>Sample Location</u>	<u>Gravel</u>	<u>Sand</u>	<u>Silt</u>
TP-1 at 7 to 12 inches BGS	25%	67%	8.4%
TP-2 at 22 to 26 inches BGS	28%	41%	31%
TP-3 at 22 to 26 inches BGS	29%	50%	20.9%

Notes:

Gravel is material larger than (retained on) #4 sieve.

Silt is non-plastic material passing #200 sieve.

Sand is remainder of soil that is not gravel or silt.

Soil Permeability Estimates

The proposed synthetic turf field will allow vertical drainage of precipitation. Water will rapidly flow through the highly pervious synthetic surface, underlying finish aggregate stone fill and underlying gravel from the existing pavement base. Gravely silty sands were encountered at depths of 12 to 22 inches BGS and contain 21 and 31% silt. Based on extrapolation from the sieve reports, these soils have an estimated permeability of 1.7×10^{-4} and 1.6×10^{-5} cm/sec, respectively. These estimated permeability rates are equivalent to 0.2 inches per hour (iph) for the gravely silty sands at TP-3 and 0.02 iph for the glacial till at TP-2.

Thus the gravely silty sand at TP-3 at 12 to 20" BGS is about ten times more permeable than the glacial till at TP-2 at 22 to 26" BGS. The glacial till is believed to extend under the gravely silty sands but was not encountered via the shallow test pitting performed per contract.

Conclusions and Recommendations

Base course gravely sands are rapidly draining materials with less than 10% fines. This fill is about 5 inches thick at TP-1 and is 12 to 19 inches thick at the other pits. This material will provide a stable and firm subgrade for the proposed field turf.

The gravely silty sands in TP-1 is a moderately well drained material with about 12% fines based on textural examination by Briggs. This fill may be associated with the backfill or a manhole located about 6 feet south of TP-1. Briggs recommends that the grey gravely silty sands be segregated from the clean gravely sands and stockpiled for additional sieve testing. Reuse of this material can be considered after it is determined if the fill is needed and after the sieve test is conducted.

The underlying, undisturbed, inorganic glacial till is a dense deposit suitable for structural support of the field but this material is poorly draining with an estimated permeability of 1.6×10^{-5} cm/sec (0.02 iph). The above estimated permeability results were estimated using the Hazen Williams method after extrapolating the effective soil diameter D_{10} based on the sieve report. Results might be within about 10% of the actual permeability for each sample. Should the permeability estimate be a critical design parameter, the permeability values should be verified by performing falling head permeability tests and/or in-situ double ring infiltrometer tests.

Limitations and Exclusions

All the professional opinions presented in this report are based solely on the scope of work conducted and sources referred to in our report. The data presented by Briggs in this report were collected and analyzed using generally accepted industry methods and practices at the time the report was generated. This report represents the conditions, locations, and materials that were observed at the time the field-work was conducted. No inferences regarding other conditions, locations, or materials, at a later or earlier time may be made based on the contents of the report. No other warranty, express or implied is made.

This report was prepared for the sole use of our client. The use of this report by anyone other than our client or Briggs is strictly prohibited without the express prior written consent of Briggs. Portions of the report may not be used independently of the entire report.

The above recommendations and conclusions are based on our evaluation of the obtained data presented in the text. We would welcome the opportunity to monitor the pertinent phases of the foundation construction; thus, if differences are found between the field conditions described herein and those encountered during construction, we can modify our recommendations in a timely and professional manner.

Thank you for engaging our services to undertake this project. If you have any questions, please do not hesitate to contact us at your convenience.

Very truly yours,

Briggs Engineering & Testing



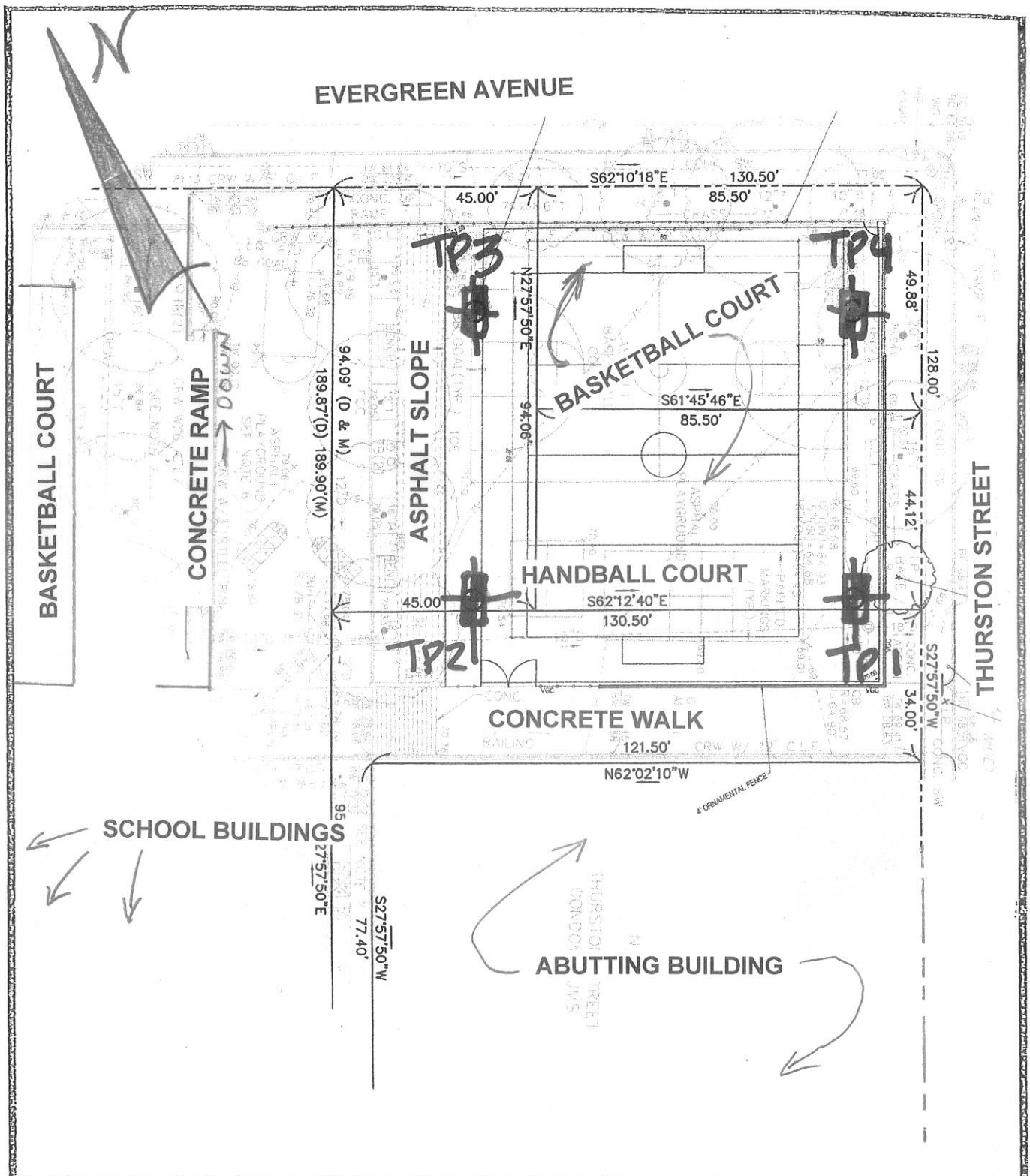
David W. Geisser
Project Engineer

DWG:dg

Enclosures:

Figure 1 –Location Plan

Figure 2 – Test Pit Logs TP-1 through TP-5



Briggs Engineering & Testing
A Division of PE Associates, Inc.

LEGEND:



NUMBER AND APPROX.
LOCATION OF TEST PIT
EXCAVATION

LOCATION PLAN
PROPOSED COURT RENOVATIONS
WHCIS SCHOOL THURSTON ST
SOMERVILLE, MA

Scale: N.T.S.

Drawn: DWG

FIG. 1

JAN 10, 2017

Check: DWG



Briggs Engineering & Testing

A Division of PK Associates, Inc.

City of Somerville
93 Highland Ave
Somerville, MA 02143
Attn: Luisa Oliveira

Report Date: 1/18/17

Project: WHCIS/Somerville
Briggs #: 29366

Tested: 1/16/17
Received: 1/11/17

1	Sample No.	Description	Source of Material
	M-28063	Gravelly Sand	TP 1, Basketball Court 7"-12"

2. Sieve Analysis {ASTM C 136, and ASTM C 117}

Sieve Size		Results	Specifications
Standard	Alternate	{% Passing by Wt.}	
100 mm	4"	100	
75 mm	3"	100	
63 mm	2-1/2"	100	
50 mm	2"	100	
37.5 mm	1-1/2"	98	
25 mm	1"	96	
19 mm	3/4"	95	
12.5 mm	1/2"	89	
9.5 mm	3/8"	85	
4.75 mm	#4	75	
2.36 mm	#8	70	
1.18 mm	#16	62	
0.600 mm	#30	46	
0.300 mm	#50	27	
0.150 mm	#100	14	
0.075 mm	#200	8.4	

BRIGGS ENGINEERING & TESTING
A Division of PK Associates, Inc.

Sean Skorohod
Director of Testing Services
Construction Technology Division

www.briggsengineering.com

100 Weymouth Street, Unit 3, 2
Roslindale, MA 02126
Phone: 617-621-8888 Fax: 617-621-8889

100 Highland Road
Somerville, MA 02143
Phone: 617-621-8888 Fax: 617-621-8889



Briggs Engineering & Testing

A DIVISION OF PK ASSOCIATES, INC.

City of Somerville
93 Highland Ave
Somerville, MA 02143
Attn: Luisa Oliveira

Report Date: 1/18/17

Project: WHCIS/Somerville

Briggs #: 29366

Tested: 1/16/17

Received: 1/11/17

1	Sample No.	Description	Source of Material
	M-28064	Gravelly Sand	TP 2, 22"-26"

2. Sieve Analysis {ASTM C 136, and ASTM C 117}

Sieve Size		Results	Specifications
Standard	Alternate	{% Passing by Wt.}	
100 mm	4"	100	
75 mm	3"	100	
63 mm	2-1/2"	100	
50 mm	2"	100	
37.5 mm	1-1/2"	100	
25 mm	1"	95	
19 mm	3/4"	92	
12.5 mm	1/2"	90	
9.5 mm	3/8"	86	
4.75 mm	#4	72	
2.36 mm	#8	67	
1.18 mm	#16	63	
0.600 mm	#30	57	
0.300 mm	#50	49	
0.150 mm	#100	39	
0.075 mm	#200	31.0	

BRIGGS ENGINEERING & TESTING
A Division of PK Associates, Inc.

Sean Skorohod
Director of Testing Services
Construction Technology Division

www.briggsengineering.com

600 Weymouth Street - 4th Floor
Boston, MA 02115
Phone: 617.552.8710 Fax: 617.552.8711

600 Boardman
Boston, MA 02116
Phone: 617.552.8710 Fax: 617.552.8711



Briggs Engineering & Testing
A Division of PK Associates, Inc.

City of Somerville
93 Highland Ave
Somerville, MA 02143
Attn: Luisa Oliveira

Report Date: 1/18/17

Project: WHCIS/Somerville
Briggs #: 29366

Tested: 1/16/17
Received: 1/11/17

1	Sample No.	Description	Source of Material
	M-28065	Gravelly Sand	TP 3, Basketball Court 12"-20"

2. Sieve Analysis {ASTM C 136, and ASTM C 117}

Sieve Size		Results	Specifications
Standard	Alternate	{% Passing by Wt.}	
100 mm	4"	100	
75 mm	3"	100	
63 mm	2-1/2"	100	
50 mm	2"	100	
37.5 mm	1-1/2"	100	
25 mm	1"	97	
19 mm	3/4"	96	
12.5 mm	1/2"	94	
9.5 mm	3/8"	87	
4.75 mm	#4	71	
2.36 mm	#8	66	
1.18 mm	#16	59	
0.600 mm	#30	51	
0.300 mm	#50	40	
0.150 mm	#100	29	
0.075 mm	#200	20.9	

BRIGGS ENGINEERING & TESTING
A Division of PK Associates, Inc.

Sean Skorohod
Director of Testing Services
Construction Technology Division

www.briggsengineering.com

SECTION 32 12 16 - ASPHALT PAVING

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions of the Contract, including Division 00 and Division 01, apply to the work under this Section.

1.02 Work Included

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform all paving operations complete as shown on drawings and specified herein.
- B. Work includes, but is not limited to the following:
 - 1. Installation of new asphalt paving;
 - 2. Patching and resurfacing disturbed paved areas;
 - 3. Cleaning, Repair, and Protection.

1.03 References

- A. Examine all other sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades and all departments of the City of Somerville and coordinate all work under this Section.
- B. The following related items are included under the Sections list below
 - 1. Section 02 41 00 – Site Preparation and Demolition
 - 2. Section 31 00 00 – Excavation, Filling and Grading
 - 3. Section 32 13 13 – Concrete
 - 4. Section 32 16 00 - Curbing
 - 5. Section 32 31 00 – Fences and Gates
 - 6. Section 32 90 00 – Planting
 - 7. Section 33 49 23 – Drainage Systems

1.04 Definitions

- A. The following related items are included herein and shall mean:

1. S.S.H.B. - Standard Specifications for Highways and Bridges, the Commonwealth of Massachusetts, Department of Transportation, latest edition.
2. A.S.T.M. - American Society for Testing and Materials.
3. A.A.S.H.T.O. - American Association of State Highway and Transportation Officials.

1.05 Submittals

- A. At least 30 days prior to intended use, submit material certificates signed by material producer and Contractor indicating that products comply with requirements. Provide master mix formula for all bituminous concrete specified in this Section, listing quantities and pertinent ingredient properties for review and approval. Submit product data for traffic marking paint.
- B. Submit aggregate samples for review and approval.
- C. Do not order materials until Architect's approval of mix formula has been obtained. Delivered materials shall closely match the approved samples.
- D. Submit product data for traffic marking paint.

1.06 Project Conditions

- A. Weather: Perform work only when existing and forecasted weather conditions are within the limits established by referenced standards. Perform work only when ambient temperature is forecasted to be at least 50-degrees Fahrenheit and when temperatures have not been below 35-degrees Fahrenheit for 12 hours immediately prior to application. Do not apply when base is wet or contains an excess amount of moisture or is in a frozen state.
- B. Bituminous paving shall not be applied until the finished compacted gravel base has been tested and approved. A delay in paving after the gravel base is tested and approved may require recompaction and testing at no additional cost to the Owner.
- C. Construction methods, transportation and delivery of mixtures, spreading, finishing, compaction joints, etc. shall conform to Section 460 of the Massachusetts Department of Transportation Standard Specifications for Highways and Bridges unless otherwise specified herein.
- D. Substrates: Proceed with work only when substrate construction and penetrating work is complete and base is dry.
- E. Grade Control: Establish and maintain required lines and elevations.

1.6 Regulatory Requirements

- A. Strictly comply with applicable codes, regulations and requirements of authorities having jurisdiction.

1.7 Quality Assurance

- A. Bituminous concrete shall be prepared, mixed, transported, placed, compacted and finished in accordance with the requirements set forth in the latest edition of the “Standard Specifications for Highways and Bridges” (hereinafter referred to as “SSHB”), as published by the Massachusetts Department of Transportation.

1.8 Testing

- A. During the placing and rolling operation, repeated checks shall be made to ascertain the correct rate of application to provide the required compacted thickness
- B. If the average thickness is deficient from the specified thickness by one quarter (1/4) inch or more, the extent of the deficient area shall be corrected at the Contractor's expense.
- C. Upon completion of testing, the Contractor shall properly fill all test holes by compacting a fine aggregate bituminous concrete for the full depth of the core. The finished surface shall be smooth.

1.9 COORDINATION

- A. This Contractor shall coordinate with all other trades especially grading, curb installation, electrical and plumbing contractors, through the General Contractor in order to prevent covering up unfinished or uninspected work and loss of time or labor by mis-scheduling and to assure the steady progress of all work of the Contract. Any rework shall be done at no cost to the Owner.

1.10 LAYOUT AND GRADES

- A. A Registered Land Surveyor or Registered Professional Engineer employed by the Contractor shall lay out all lines and grade work in accordance with the Contract Documents.

1.11 DISTURBING EXISTING PAVEMENT DURING CONSTRUCTION

- A. Existing paved areas shall be protected from damage by construction activities to the extent possible. Where sections of the finished paved areas have to be removed, the edges shall be saw cut in all cases and patched.
- B. Existing finished paved areas that require extensive cutting and patching or have become damaged and cannot be satisfactorily repaired by cutting and patching shall be resurfaced. These resurfaced areas shall be large enough to be applied by paving machines. Shape of these resurfaced areas shall be near and in rectangular patterns or shall conform to the shape or edges of other adjacent surface improvements. Edges of resurfaced areas shall be saw cut and existing pavements shall be removed from a distance of two feet into areas to be resurfaced, so that new pavement can neatly blend into existing pavement showing no joints or imperfections. If the gravel base course has been disturbed, the Contractor shall remove the disturbed material, repair the existing gravel base and apply a new binder course as specified herein.

- C. All paving beyond the project's property line shall be in accordance with the requirements of the authority having jurisdiction. Provide traffic control for any work within the Town's Right-of-Way.

PART 2 - PRODUCTS

2.01 Grading and Compaction of Sub-base

- A. Do all necessary grading in addition to that specified under Section 31 20 00 – Earth Moving to bring subgrade or foundation after final compaction to required grades and sections to obtain a foundation of uniform bearing surface. In absence of specific requirements, compact foundation by such means as will provide firm base and insurance against settlement of superimposed work.
- B. Sub-base preparation, including material, shall be of properly approved quality as specified under Section 31 20 00 – Earth Moving. Start of work under this Section shall constitute acceptance of the foundation conditions to which this work is to be applied. Any defects in work resulting from such conditions shall be corrected under this Section, Site Improvements, at no additional cost to the Owner.

2.02 Asphalt Paving Materials and Products

- A. Course Aggregates: Provide clean, sound, angular crushed stone, crushed gravel, complying with ASTM D 692-88. This material shall contain a minimum of 75-percent light colored pieces.
- B. Fine Aggregate: Provide sharp-edged natural sand or sand prepared from stone, gravel or combination thereof, complying with ASTM D 1073.
- C. Tack Coat: Bituminous tack coat, where required, shall be emulsified asphalt, grade RS-1.

2.03 Asphalt Paving Mixes

- A. Provide Class I asphalt aggregate mixture in compliance with Section 460, Paragraph 460.40, SSHB and as follows:
1. Binder Course and Top Course: Provide Binder Course and Top Course conforming with the Job-Mix Formula given in Section M, paragraph M3.11.03, SSHB.
 2. The Binder Course shall consist of one lift of Binder Course asphalt paving to thickness as shown on the Contract Documents. The aggregate for the binder course shall conform to the following gradation requirements:

<u>SIEVE SIZE</u>	<u>PERCENT PASSING</u>
1"	100
3/4"	80 – 100
1/2"	55 - 75
#4	28 – 50

#8	20 - 38
#30	8 – 22
#50	5 - 15
#200	0 - 5
Bitumen % of mix	4.5 - 5.5

3. The Top Course shall consist of one lift of Top Course asphalt paving to thickness as shown on the Contract Documents. The surface tolerance after completion shall be 1/8 inch when measured in any direction with a 10 ft. straightedge. The aggregate for the top course shall conform to the following gradation requirements:

SIEVE SIZE	PERCENT PASSING
5/8"	100
1/2"	95 – 100
3/8"	80 - 100
#4	50 - 76
#8	37 - 54
#30	17 - 29
#50	10 - 21
#200	2 - 7
Bitumen % of mix	5.5 – 7.0

A.C. 20 of 30

Voids content less than 9%.

2.04 Bituminous Materials

- A. Bituminous material for tack coat shall be one of the following:

1. Cut-back asphalt (rapid curing type) conforming to AASHTO M81, Grade RC-70 or
2. Emulsified asphalt rapid-setting type conforming to AASHTO M140, Grade RS-1

- B. Bitumen shall be rapid setting type emulsified asphalt conforming to AASHTO M 140, Grade RS-1.

- C. Bituminous crack sealer shall be a hot-applied bituminous sealer conforming to Fed. Spec. SS-S-1401.

PART 3 - EXECUTION

3.01 Installation of New Asphalt Paving

- A. Pre-installation examination required: The Installer of asphalt concrete shall examine the sub base and all related work, and the conditions under which this work is to be performed and notify the Contractor in writing of all deficiencies and conditions detrimental to the proper completion of their work. Beginning work means Installer accepts substrates, previous work, and conditions.
- B. Reference Standards: Install asphalt concrete in strict compliance with Sections 460.60 through 460.68 of the State Standard Specifications, except where more restrictive requirements are specified.
- C. Subbase Inspection: Do necessary grading in addition to that specified under Section Earthwork to bring sub-grade to required grades and sections for bituminous pavement base course construction. Tamp traces of trenches. Remove spongy and otherwise unsuitable material and replace with approved material. Loosen exceptionally hard spots and recompact. Take every precaution to obtain a foundation of uniform bearing strengths. Any defects in this work shall be corrected under this Section at no additional cost to the Owner.
- D. Gravel Base Course Preparation: shall consist of approved gravel fill and placed on approved subgrade to the depth indicated and as specified under Section Earthwork. The surface of the gravel base shall be shaped to the cross section of the pavement. The start of work under this Section shall constitute acceptance of the foundation conditions to which this work is to be applied.
 - 1. The gradation shall conform to Gravel Borrow as specified in Section 31 20 00 – Earth Moving. Gradation shall be determined by a mechanical wet sieve analysis and in accordance with ASTM D-422.
 - 2. The gravel shall be spread in layers from self-spreading vehicles or with power graders of approved types, or by hand methods upon the prepared subgrade. The gravel shall be compacted to not less than 95-percent of the maximum dry density of the material as determined by the Method of Test for ASTM Designation D - 1557, Method D. Grading and compaction shall continue until the surface is even and true to the proposed lines and grades within a tolerance of 3/8-inch above or below the required cross sectional elevations and to a maximum irregularity not exceeding 3/8-inch under a ten foot line longitudinally. Any specific area which after being rolled, does not form a satisfactory, solid foundation shall be removed, replaced and recompact. The gravel shall be spread and compacted in layers not exceeding 6-inches in compacted thickness. The Contractor shall furnish, set and maintain all line and grade stakes necessary to guide the automated grade control equipment.
 - 3. Contractor shall maintain base course in an acceptable condition, protected from traffic, erosion and other elements until the surface is placed.
 - 4. After the subgrade and /or existing pavement surfaces have been prepared as specified herein, the Contractor shall check all frames, covers, grates, water valve boxes and all miscellaneous castings that are located in the proposed pavement area to insure that all such items have been accurately positioned and set to the proper slope and elevation. All covers and grates shall be set flush with the required finished pavement surface. No depressions or mounds will be permitted in the pavement to accommodate inaccuracies in the setting of these appurtenances.

5. For reclaimed base course requirements refer to Section 02 41 13 – Site Preparation

- E. Tack Coat: Tack coat shall be applied to previously paved, hardened surfaces. Apply uniformly by mechanical means at a rate of 0.05 gal/s.y. after thoroughly cleaning such surfaces of all foreign matter and loose material. Surfaces shall be dry before the tack coat is placed. The tack coat shall be applied immediately prior to laying the new pavement.
- F. Placing Mix: Paving shall be laid in two courses except as noted on the Drawings. The thickness of each course shall be as shown on the Drawings and measured in place after compaction. The first course shall be the Binder Course and the second course shall be Top Course as defined in "Table A" of Section M3.11.03 "Job-Mix Formula" of the SSHB. A minimum of two weeks shall pass between the installation of the binder course and top course.
1. Any unsatisfactory irregularities or defects remaining after the final compaction shall be corrected by removing and replacing with new material as specified, to form a true and even surface. All minor surface projections, joints and minor honeycombed surfaces shall be ironed out smoothly to grade, as directed.
 2. No vehicular traffic or loads shall be permitted on the newly completed pavement until stability has been attained and the material has cooled sufficiently to prevent distortion or loss of fines.
- G. Rolling: Begin rolling mixture when asphalt concrete can bear weight of roller without excessive displacement. Roll at least three times and provide a smooth, compact, uniform surface free of roller marks. After first rolling repair displaced area as needed with additional hot material. Roll at least two additional times to thoroughly compact concrete to maximum density and to remove roller marks.
- H. Tolerances: The finished surface of each hot-mixed asphalt course shall be tested for smoothness using a 10-foot straight edge applied parallel with and at right angles to the center line of the paved area. Surfaces exceeding the following tolerances within the 10-feet will not be accepted.

Binder Course: 1/4-inch

Top Course: 3/16-inch

3.02 Patching and resurfacing disturbed paved areas

- A. In areas on site where new pavement abuts existing pavement and/or where existing pavement requires patching due to removal of existing pavement for installation of work under this Contract, patching of existing pavement shall be as follows:
1. Sawcut the existing edge of pavement in a straight line at a 90-degree angle to the vertical in such a manner that all existing loose or cracked areas of pavement are removed.
 2. Edges of existing pavement shall be painted with a thin coat of bitumen (RS-1) immediately before placing new pavement.

3. Asphalt shall be installed as specified herein. Smooth transition surfaces shall be provided where new pavement abuts existing paved surfaces.
- B. All asphalt patching work within public right-of-ways shall be completed in accordance with the requirements of the authority having jurisdiction.
1. Provide traffic control for work within the public right-of-way.
 2. All road surfaces shall be cut by an approved mechanical means before any excavation is started to insure against unnecessary damage to pavement.
 3. Excavation shall be completed in a safe and workmanlike manner and is to create a minimum amount of obstruction to pedestrian and or vehicular traffic.
 4. Gravel Borrow shall be used and placed on six inch layers and compacted to 95% of the maximum dry density by mechanical means.
 5. Resurfacing:
 - a) The work to be completed hereunder shall include the replacement of all existing asphalt pavements disturbed by the work. This shall include the entry drive as indicated on the drawings. Resurfacing will not be strictly limited to those areas disturbed, when in the judgment of the Architect an expansion of the work is necessary for proper restoration and to those areas specifically shown on the Drawings.
 - b) All work shall conform the requirements of the Massachusetts Highway Department SSHB, latest edition. Specific gradations of mix will be as directed by the Town Engineer or Architect to suit the use intended.
 - c) All cut joints at existing and new top pavement surfaces shall be sealed with bitumen and sand. This includes roadways, sidewalks, driveways, and all other pavements.
- 3.03 Cleaning, Repair, and Protection
- A. Three days after rolling, the finished pavement shall be tested. Any section that shows ponding, indentation, rutting or picking up shall be resurfaced at the Contractor's expense.
 - B. Provide temporary protection to ensure work is completed without dirt, stains, damage or deterioration at time of final acceptance. Clean up stains and spills as they occur. Remove protection and clean as necessary immediately before final acceptance review.
- 3.04 Guarantee
- A. The Contractor shall guarantee all pavement installations, including materials and workmanship, for a period of one year from the date of acceptance. The Contractor shall make interim repairs as necessary to maintain all paved areas in good, usable conditions.

END OF SECTION

32 13 13 – PORTLAND CEMENT CONCRETE

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions of the Contract, including Division 00 and Division 01, apply to the work under this Section.
- B. The Contractor shall prior to any removal of surplus fill, excavated material, or debris from the site, furnish written evidence satisfactory to the owner or owner's representative that he has an approved dumping location for debris and/or spoil from his/her excavation activities.

1.02 Work Included

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform Earthwork as shown on the Drawings and as specified herein.
- B. To be included:
 - 1. Footings for Site improvements, Furnishings and Play equipment.
 - 2. Concrete Paving
 - 3. Colored Concrete Seating Stairs and Cheek Walls
- C. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades and all departments of the City of Somerville and coordinate all work under this Section therewith.
- D. The following related items are included under the Sections listed below.
 - 1. Section 01 23 00 - Alternates
 - 2. Section 11 68 00 – Play Equipment
 - 3. Section 31 00 00 - Excavation, Filling and Grading
 - 4. Section 32 30 00 – Site Improvements
 - 5. Section 32 90 00 - Planting

1.03 Submittals

- A. All manufacturers' product literature including colors for admixtures.
- B. Construct Concrete Sample Panels:
 - 1. Samples shall not be constructed in an area of proposed finish work. Samples shall be constructed within the vicinity of the proposed finish work to

facilitate comparisons during construction. The samples shall demonstrate the typical installation of concrete, including score lines, expansion joint and sealant, curing and finishing material, surface texture, color, and edge treatment. The accepted sample, upon approval, shall be maintained as the minimum standard of quality for approval of all new concrete pavement work required for the project. If the original sample panel is not approved, the Contractor shall provide additional sample panels, as required, at no additional cost to the Owner until a mock up sample is approved. Unacceptable sample panels shall immediately be removed from the site.

- a. Construct 4 foot x 4 foot sample panel of finished 4 inch concrete pavement with scoring, for approval, at least 15 days prior to final concrete paving work.
- b. Colored Concrete Pavement mockup: Provide up to (3) 2'x2' mock-ups with scoring, cured for 28 days, for landscape architect review. Colors shall be selected from Standard Color Group-1.

1.04 Laws, Ordinances, Permits and Fees

The Contractor shall:

- A. Give necessary notices, obtain all permits and pay all governmental taxes, fees and other costs in connection with this work, file all necessary plans, prepare documents and obtain all necessary approvals.
- B. Obtain all required certificates of inspection for this work and deliver same to the Landscape Architect before request for acceptance and final payment for the work.
- C. Include in the work, without extra cost to the Owner, any labor, materials, services, apparatus, drawings (in addition to contract drawings and documents) in order to comply with all applicable laws, ordinances, rules and regulations of the City of Boston and the Commonwealth of Massachusetts, whether or not shown on the Drawings and/or specified.

1.05 Definitions

- A. The following related items are included herein and shall mean:
 1. S.S.H.B. - Standard Specifications for Highways and Bridges, the Commonwealth of Massachusetts, Department of Public Works, latest edition
 2. A.S.T.M. - American Society for Testing and Materials
 3. A.A.S.H.T.O. - American Association of State Highway and Transportation Officials

1.06 Subsurface Information

- A. The Owner assumes no responsibility for the Contractor's failure to make his own site investigation and makes no representation regarding the character of the soil or subsurface conditions which may be encountered during the performance of the work.

1.07 Finished Grades

- A. The words "finished grades" as used herein mean the required final grade elevations indicated on the Drawings. Where not otherwise indicated, site areas shall be given uniform slopes between points, for which finished grades are shown, or between such points and existing grade except that vertical curves or roundings shall be provided at abrupt changes in slope.

1.08 Grades and Elevations

- A. The Drawings indicate, in general, the alignment and finished grade elevations. The Landscape Architect, however, may make such adjustments in grades and alignment as are found necessary in order to avoid interference and to adapt the grading to other special conditions encountered.

1.09 Work in the Public Ways

- A. Notify the appropriate municipal officials at least seven calendar days in advance of commencing any work in the public ways to obtain all required permission to perform this work. Perform all work in the public ways in a manner required by the municipal authorities.
- B. Should there be any conflict between requirements specified in the Contract Documents and those of the City of Boston, the municipal requirements shall govern.
- C. Do not close or obstruct any streets or sidewalks unless and until they have been discontinued by the appropriate municipal authority or unless and until he shall have first secured all necessary or other permits therefor. No materials whatsoever shall be placed or stored in the streets. Conduct all operations to interfere as little as possible with the use ordinarily made of roads, driveways, sidewalks, or other facilities near enough to the work to be affected thereby.

PART 2 - PRODUCTS

1.01 Cast-in-Place Concrete (Pavement, Footings, Wall Extension, Seating Stairs)

- A. Cast-in-place concrete shall be Class D, air-entrained concrete conforming to the requirements and applicable provisions of Section 701 of the S.S.H.B. Minimum 28-day compressive strength shall be 4,000 psi. Concrete shall be air-entrained 5% minimum with a one (1") to three (3") inch maximum slump.
- B. Form Materials
 - 1. Forms of Exposed Finished Concrete: Unless otherwise indicated, construct form work for exposed concrete surfaces with plywood, metal, metal-framed plywood faced or other acceptable panel-type materials, to provide continuous, straight, smooth, exposed surfaces. Furnish in largest practical sizes to minimize number of joints and to conform to the joint system shown on Drawings. Provide form material with sufficient thickness to withstand pressure of newly placed concrete without bow or deflection.
 - 2. Use plywood complying with U.S. Product Standard PS-1 "B-B (Concrete Form) Plywood," Class I, Exterior Grade or better, mill-oiled and edge-sealed, with each piece bearing legible inspection trademark.

3. Form for Unexposed Finish Concrete: Form concrete surfaces which will be unexposed in finish structure with plywood, lumber, metal or other acceptable material. Provide lumber dressed on at least 2 edges and one side for tight fit.
4. Form Coatings: Provide commercial formulation form-coating compounds that will not bond with, stain or adversely affect concrete surfaces, and will not impair subsequent treatments of concrete surfaces.

C. Reinforcing Materials

1. Reinforcing Bars: ASTM A615, Grade 60.
2. Welded Wire Fabric (WWF): ASTM A185, welded steel wire fabric.
3. Supports for Reinforcement: Provide supports for reinforcement including bolsters, spacers and other devices for spacing, supporting and fastening reinforcing bars and welded wire fabric in place. Use wire bar type supports complying with CRSI recommendations, unless otherwise acceptable.

D. Cement

1. Cement shall be Portland Cement Type 1, free from water-soluble salts or alkalis, which will cause efflorescence on exposed surfaces. Portland Cement shall comply with Standard Specifications of the ASTM-C150 Type I or II.
2. Cement shall be stored in a weather-tight structure and in such a manner as to prevent deterioration or intrusion of foreign matter. It shall be easily accessible for proper inspection and identification of each shipment. Cement that has hardened or partially set shall not be used.

E. Aggregate

1. Fine aggregate for all concrete shall consist of washed inert natural sand conforming to ASTM-C330.

F. Water

1. Water for concrete shall be clean, potable, and free from deleterious substances.
2. When subjected to the mortar strength test described in ASTM-C87 the strength at 28 days of mortar specimens made with the water under examination and normal Portland Cement shall be at least 100% of the strength of similar specimens made with distilled water.

G. Color Admixture

1. Provide concrete color admixtures for concrete where indicated on the Drawings. Provide the number of different colors indicated on the Drawings from the approved manufacturer's standard colors. The standard of quality, design and function required is based on CHROMIX Admixtures for Color-Conditioned Concrete available from L.M. Scofield Company, (800) 800-9900.

Submit manufacturer's color chart for selection and approval by the Architect. Submittal shall include the manufacturer's technical data for recommended mixing, installation, curing, sealing and maintenance procedures.

2. Mixing, installation and curing concrete with Color Admixture shall conform to the approved manufacturer's recommendations. Curing material shall meet or exceed ASTM C 309 Liquid Membrane-Forming Compounds for Curing Concrete.
3. LITHOCHROME Colorwax, from L.M. Scofield Company, or approved equal, shall be used for concrete curing in accordance with the manufacturer's instructions for all colored concrete walls and flatwork. Curing material shall meet or exceed ASTM C 309 Liquid Membrane-Forming Compounds for Curing Concrete.
4. Additional acceptable manufacturers include:
 - a. Butterfield Color, Tel: 800-282-3388
 - b. Davis Colors, Tel: 800-356-4848
 - c. Or approved equal.

H. Related Materials

1. Grout: Non-shrink, non-metallic grout conforming with ASTM C1107 Type B
2. Chemical Hardener (chHD-Fn): Colorless aqueous solution containing a blend of magnesium fluosilicate and zinc fluosilicate combined with a wetting agent, containing not less than 2 lbs. of fluosilicates per gal.
3. Absorptive Cover: Burlap cloth made from jute or kenaf, weighing approximately 9 oz. per sq. yd., complying with AASHTO M 182, Class 2.
4. Moisture-Retaining Cover: One of the following, complying with ASTM C171.
 - a. Waterproof paper
 - b. Polyethylene film.
 - c. Polyethylene-coated burlap
5. Filler strips for expansion joints where used with caulking or sealants shall be cork type, non-extruding, self-expanding filler strips, AASHTO M-153-111, ASTM D1752, III, as manufactured by Celotex Corporation, W.R. Meadows, Inc., W.R. Grace and Company, or equal. Where no sealant is required strips may be non-extruding bituminous type in accordance with ASTM D1751.
6. Admixtures
 - a. Admixtures causing accelerated setting of the cement in concrete shall not be used.

- b. In general, all concrete shall not contain additives, but an admixture may be employed therein (to improve workability, durability, etc.) subject to prior test and/or approved by the Engineer in writing.
- c. Water-reducing and air-entraining agents shall be used in concrete, as required by the engineer, in strict accordance with the manufacturer's printed instructions. Agents shall be stored safe from adverse temperature in accordance with manufacturer's printed instructions. Total air entrained in freshly mixed concrete shall be 5.0% plus or minus 1.0% of volume of concrete with required strengths maintained.
- d. Water-reducing agent: "Sonotard WR" by Sonneborn Building Products, "WRDA" by W.H. Grace Company, "Pozzolith 100" by Master Builders Company, or equal. Water reducing agent must be by same manufacturer as air-entraining agent.
- e. Air-entraining Agent: "Darex" by W.R. Grace Company, "Aerolith" by Sonneborn Building Products, "MB-VR" by Master Builders Company, "Sealtight Air Entraining Agent" by W.R. Meadows, or equal.
- f. No other admixtures may be used without Engineer's approval.

I. Curing Compounds

- 1. All curing compounds shall conform to requirements of ASTM Designation C-309, Type I, clear and C-156. No materials containing wax or saponifiable materials will be permitted.
- 2. Curing compound in areas that will be exposed to view in the finished work, or to receive a painted finish, and areas to receive a concrete topping or ceramic tile mortar beds, seamless composition flooring, synthetic athletic surfacing, or other similar finishes, shall contain a fugitive dye, and shall be of a type that will become brittle and easily removable after about 3 weeks to allow dust-proofing treatment specified here in after.
- 3. Curing compound shall be Master Builders "Master Seal", Symons "Cure and Seal", Sonneborn "Kure-N-Seal", "CS-309" by W.R. Meadows or equal, conforming to ASTM 309, Type 1 and 2.

J. Proportioning and Design of Mixes

- 1. Prepare design mixes for each type and strength of concrete by either laboratory trial batch or field experience methods as specified in ACI 301. If trial batch method used, use an independent testing facility acceptable to Landscape Architect for preparing and reporting proposed mix designs. The testing facility shall not be the same as used for field quality control testing unless otherwise acceptable to Landscape Architect.
- 2. Submit written reports to Landscape Architect of each proposed mix for each class of concrete at least 15 days prior to start of work. Do not begin concrete production until mixes have been reviewed by the Landscape Architect.

3. Adjustments to Concrete Mixes: Mix design adjustments may be requested by Contractor when characteristics of materials, job conditions, weather, test results, or other circumstances warrant; at no additional cost to Owner and as accepted by Landscape Architect. Laboratory test data for revised mix design and strength results must be submitted to and accepted by Landscape Architect before using in work.

K. Concrete Mix

1. Provide batch ticket for each batch discharged and use in work indicating project identification name and number, date, mix type, mix time, quantity, and amount of water introduced.
2. Ready-Mix Concrete: Comply with requirements of ASTM C94, and as herein specified.
3. During hot weather, or under conditions contributing to rapid setting of concrete, a shorter mixing time than specified in ASTM C94 may be required.
4. 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, and when air temperature is above 90 Deg. F. (32 deg. C), reduce mixing and delivery time to 60 minutes.

L. Expansion Joints

1. Provide expansion joints, unless otherwise indicated on the Contract Documents, at 30 feet on-center, maximum.
2. Expansion joint filler:
 - a. Expansion joint filler shall be closed cell polymer foam meeting requirements of ASTM D1752, Sections 3.1 to 3.4, based on compression requirement of 10 psi minimum and 25 psi maximum. Recovery rate following 50-percent compression shall exceed 99-percent recovery, per ASTM D545. Foam shall be Ceramar foam filler manufactured by W.R. Meadows Co. or an approved equal. Joint sealant shall color match concrete refer to section 03300 for joint sealant requirements.
 - b. Expansion joint filler shall have a removable cap cover for the joint filler with integral permanent plastic bond breaker such as Snap-Cap from Seal Tight manufactured by W.R. Meadows, Inc., or approved equal. Cover width shall be sized to match width of joint filler.
 - c. Expansion Dowels: refer to Reinforcing Materials in this Section.

M. Joint Sealant

1. Joint sealant and primer shall be polyurethane-based, one component, elastomeric sealants, complying with Fed. Spec. TT-S-00230C, Class A Type 1. Color shall be as selected by the Architect. Sealants shall be self-leveling pour grade type.

- a. Vulkem 45, as manufactured by Mameko International, 4475 East 175th Street, Cleveland Ohio 44182, (800) 321-6412.
 - b. Urexpan NR-210, as manufactured by Pecora Corporation, 165 Wambold Road, Harleysville, PA 10348, (215) 723-6051
 - c. PSI 952, as manufactured by Polymeric Systems Inc., Phoenixville, PA, (800) 228-5548.
2. Provide only materials which are known to be fully compatible with the actual installation condition, as shown by the manufacturer's published data or certification. Use manufacturer's recommended joint primer.

PART 3 - EXECUTION

3.01 Cast-in-Place Concrete

A. Formwork

1. Forms shall conform to the lines, dimensions and shapes of concrete shown providing for openings, recesses, keys, slots, beam pockets and projections as required.
2. Make forms clean and free of foreign material before placing concrete.
3. Do not use earth cuts as forms for vertical surfaces, unless approved by the Landscape Architect.
4. Design of Formwork
 - a. Comply with ACI 301, Chapter 4, Paragraph 4.2. Formwork drawings shall bear the seal of licensed professional engineer.
 - b. Form rods and tie wires of exterior surfaces shall slope down from the inside to outside of forms.
 - c. Provide forms so that no discernible imperfection is in evidence in finished concrete surfaces due to deformation, bulging, jointing, or leakage of forms.

B Mixing Concrete

1. Ready Mix Concrete
 - a. Comply with ASTM C94.
 - b. Add mixing water only at the site.
 - c. Discharge the concrete completely at the site within 1-1/2 hours after the introduction of the cement to the aggregates. In hot weather reduce this time limit so that no stiffening of the concrete shall occur until after it has been placed.

- d. Begin the mixing operation within thirty minutes after the cement has been intermingled with the aggregates.

2. Batch Mixing at Site

- a. Comply with ACI 301, Chapter 7, Paragraph 7.2.
- b. Excessive mixing requiring the addition of water to preserve the required consistency will not be permitted. Mix concrete to a consistency, which can be readily placed without segregation.
- c. Where admixtures are specified, equip mixers with a device for measuring and dispensing the admixture.

3. Hand-Mixed Concrete: When hand-mixed concrete is allowed and approved for certain parts of the work, mix on watertight platforms. Proportion cement, sand and aggregate loose by volume, carefully measured. Thoroughly mix sand and cement together dry until the mixture is a uniform color. Add the aggregate and turn the mass over until the mixture is uniform and homogeneous. Add water by sprinkling and turn the mass over until it is uniformly mixed and of the required consistency.

C. Placing Concrete

1. Preparation before placing: Conform to ACI 310, Chapter 8, Paragraph 8.1.
2. Conveying
 - a. Comply with ACI 301, Chapter 8, Paragraph 8.2.
 - b. Provide a spout or downpipe and elephant trunk or other appropriate method to prevent concrete from falling freely through a height greater than 3 feet.
3. Depositing: Comply with ACI 301, Chapter 8, Paragraph 8.3.

D. Curing

1. Comply with ACI 301, Chapter 12. Moist cure (continuous free water and cover with burlap) for first five (5) days after casting. Protect against temperatures under 40 deg. F. in first five days.

E. Form Removal

1. Do not remove forms until the concrete has thoroughly hardened and has attained sufficient strength to support its own weight and construction live loads to be placed thereon, without damage to the structure. In general, do not disturb forms for framing until the concrete has attained at least 40% of design strength for side forms and 80% of design strength for bottom forms. Remove no forms for 24 hours after placing concrete. Protect concrete walks from pedestrian traffic for a period of 3 days after placing. Damp cure as per standards above. Be responsible for proper form removal and replace any work damage due to inadequate maintenance or improper or premature form removal.

2. Where use of metal form ties extending to within less than 1-1/2 in. of the face of permanently exposed concrete has been unavoidable, cut off such ties at least 1-1/2 in. deep in the concrete but not less than 72 hours after concrete has been cast. Remove forms by methods which will not spall the concrete or cause any injury whatsoever. Hammering or prying against concrete will not be permitted.

F. Finishing

1. General Requirements for Flatwork: Strike off top surfaces of finished fill and monolithic slabs true and level within a tolerance of 1/8 in. in 10 ft. and measured with a 10 ft. straightedge placed in any direction at any location. Set edge forms and intermediate screed strips accurately and sufficiently rigid to support screeds and so that proper surface elevations and concrete thickness are achieved allowing for dead load deflection and camber of formwork. Take measurements and control tolerances by the use of transit instrument. Upon completion of leveling, remove screed and fill spaces with concrete. Concrete shall have a medium broom finish of parallel marks. Brooming shall be at right angles to the axis of walk or as shown on the Drawings.

G. Field Quality Control

1. Sampling and testing for quality control during placement of concrete may include the following, as directed by the Landscape Architect.
2. Sampling Fresh Concrete: ASTM C172, except modified for slump to comply with ASTM C94.
3. Slump: ASTM C143, one test for each concrete load at point of discharge; and one test for each set of compressive strength test specimens.
4. Air Content: ASTM C173, volumetric method for lightweight or normal weight concrete; one for each set of compressive strength test specimens.
5. Concrete Temperature: Test hourly when air temperature is 40 deg. F (4 deg. C) and below, and when 80 deg. F (27 deg. C) and above; and each time a set of compression test specimens made.
6. Compression Test Specimen: ASTM C31; one set of 6 standard cylinders for each compressive strength test, unless otherwise directed. Mold and store cylinders for laboratory cured test specimens except when field-cure test specimens are required.
7. Compressive Strength Tests: ASTM C39; one set for each 100 cu. yds. or fraction thereof, of each concrete class placed in any one day or for each 5,000 sq. ft. of surface area placed; 1 specimen tested at 7 days, 2 specimens tested at 28 days, and one specimen retained in reserve for later testing if required.
8. When total quantity of a given class of concrete is less than 50 cu. yds., strength test may be waived by Landscape Architect if, in his/her judgement, adequate evidence of satisfactory strength is provided.

9. When strength of field-cured cylinders is less than 85% of companion laboratory-cured cylinders, evaluate current operations and provide corrective procedures for protecting and curing the in-place concrete.
 10. Strength level of concrete will be considered satisfactory if average of sets of three consecutive strength test results equal or exceed specified compressive strength, and no individual strength test result falls below specified compressive by more than 500 psi.
 11. Test results will be reported in writing to Landscape Architect and Contractor on same day that tests are made. Reports of compressive strength tests shall contain the project identification name and number, date of concrete placement, name of concrete testing service, concrete type and class, location of concrete batch in structure, design compressive strength at 28 days, concrete mix proportions and materials; compressive breaking strength and type of break for both 7-day tests and 28-day test.
 12. Additional Tests: The testing service will make additional tests of in-place concrete when test results indicate specified concrete strengths and other characteristics have not been attained in the structure, as directed by Landscape Architect. Testing service may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42, or by other methods as directed. Contractor shall pay for such tests conducted, and any other additional testing as may be required, when unacceptable concrete is verified.
- H. Protection of Concrete: Under no circumstances shall the Contractor pour and leave the fresh concrete open to vandalism, while it is setting up. Damaged concrete shall be subject to rejection by the City.
- I. The following acceptance standards shall be applied to this Contract. Any portion of the concrete paving that does not meet these required acceptance standards shall be removed at the direction of the Owner's Representative. Saw cut pavement at nearest adjacent tooled joint, remove concrete pavement and discard off site in a legal manner and replace with new concrete pavement meeting the requirements of this Section.
1. Pavement surfaces shall be free of all cracking.
 2. Pavement surfaces shall not pond water.
 3. Pavement surfaces shall be free of visible high and low spots.
 4. Steel mesh reinforcing shall not penetrate the surfaces or sides of the concrete slab.
 5. Sawcut joints and all expansion joints shall be straight, true, uniform in width and free from twists, bends, kinks and misalignments.
 6. Edges and the associated edging patterns shall be consistent, true, crisp and complete.

7. Pavement shall show no graffiti. Pavement shall show no rubbed surfaces indicative of attempts to erase graffiti.
8. Expansion joints and score joints shall be placed as required by the Contract Documents.
9. Concrete surfaces shall be free of all stains, including those created during the course of the construction by the Contractor, caused by natural events, or caused by vandalism.
10. All sawcut joints and expansion joints shall be flush.
11. Pours different in color as determined by the Owner's Representative.
12. Pours without expansion joints cast into them.

END OF SECTION

SECTION 32 16 00 - CURBING

PART 1 - GENERAL

1.01 Related Documents

This section is only a portion of the Contract Documents. All of the Contract Documents, including Conditions of the Contract and Division 1 General Requirements, apply to this section.

1.02 Description of Work

- A. The work of this Section includes, but is not limited to the following:

1. Precast Concrete Curb
2. Mortar

1.03 Related Work

- A. Carefully examine all of the Contract Documents for requirements that affect the work of this Section. Other specification sections that directly relate to the work of this Section include, but are not limited to, the following:

1. Section 02 41 00 – Site Preparation and Demolition
2. Section 31 00 00 – Excavation, Filling and Grading
3. Section 32 12 16 – Asphalt Paving
4. Section 32 13 13 – Portland Cement Concrete
5. Section 33 49 23 – Drainage Systems

1.04 Intent

- A. The intent of the work of this Section is to comply with Commonwealth of Massachusetts, Department of Transportation, "Standard Specifications for Highways and Bridges," (hereinafter referred to as SSHB) Section 500, "Curb and Edging".
- B. Department of Public Works: All work within any public way and all work affecting any public way, including without limitation, roadways, sidewalks, curbs, and other work shall be done in strict compliance with the requirements of the authority having jurisdiction including local and State Standard Specifications, except when Standard Specifications are in conflict with these specifications, the most restrictive and inclusive requirements shall govern.

1.07 Coordination

- A. The work of this Section shall be coordinated with that of other trades affecting or affected by the work of this Section, including paving work to be done by others, as necessary to assure the steady progress of the Work.

PART 2 - PRODUCTS

2.01 PRECAST CONCRETE CURB

- A. Furnish precast concrete curb to sizes, shapes and dimensions shown on the Drawings. These materials shall conform to the following requirements:

1. Precast concrete curb shall be Portland cement Type I. Cement concrete shall be air-entrained 5,000 psi, ¾-inch, 705 pounds. Curbstones shall be 6" x 18 x 6'-0" typically. For curbing mounted flush with adjacent surfaces, curb stone shall be finished to match the exposed surfaces of the other six inch wide raised curb stones.
- B. Precast concrete curb construction methods shall comply with the requirements of Section 500 of the Mass. SSHB, as last amended.
 1. Precast concrete curb shall be set on a six inch select gravel base, unless otherwise indicated on the Drawings, and to the required line and grade.
 2. Unless otherwise indicated on the Drawings, curbing shall be set in a trench, which shall have been excavated to a width of 18 inches. The subgrade of the trench shall be at a depth of six inches plus the depth of the curbstone. Subgrade shall then be filled to proper level to support curb at final grade. Fill for this purpose shall consist of fine gravel or very coarse sand and a dry mortar pack concrete thoroughly tamped.
 3. Set all curb with continuous concrete setting bed. Concrete shall be as specified herein for footings.
 4. Curb units shall be placed in accurate line, each piece butting the next with maximum joint spacing no larger than ¼-inch. Final points shall be joined by closure pieces made to order. No curb stone shall be cut in the field. After alignment, curb shall be carefully backfilled with suitable material. Extreme care shall be taken not to destroy alignment.
 5. Curb shall be set at line and grade required and shall project 6" above pavement grade, unless otherwise noted on Drawings. All curbing shall be installed prior to installation of the adjacent finished surfaces.

2.02 MORTAR

- A. Cement mortar shall conform to Section M4.02.15 of the Massachusetts Department of Transportation SSHB.
- B. Concrete for curb setting shall be 4,000 PSI as specified in Section 32 13 13 – Concrete.

PART 3 - EXECUTION

3.01 Installation

- A. Curb shall be set with the top and face of curbs in alignment with adjacent existing curb to remain and as indicated on the Drawings.
- B. Preinstallation Examination Required: The installer shall examine previous related work, and conditions under which this work is to be performed and notify Contractor in writing of all deficiencies and conditions detrimental to the proper completion of this work. Beginning work means installer accepts substrates, previous work, and conditions.
- C. Manufacturer's Instructions: Strictly comply with Mass. S.S.H.B. including Section 500 of the latest edition for the installation of specified curb, unless these specifications are more restrictive. In such cases these specifications will prevail.
- D. Trench Preparation: Curb shall be set in a trench excavated to a width of 20 inches. The bottom of the trench shall be 6 inches deeper than the depth of the curbstone. The subgrade shall then be filled to proper levels with a minimum of 6 inches of compacted gravel borrow at the lines and grade shown on the plan to provide continuous support to the bottom of curb. Gravel borrow shall be thoroughly rammed or tamped until firm and unyielding.
- G. Tolerances: The following installed tolerances pertain to curbing installation only.

1. Allowable Variation from True Plumb: 1/8-inch over exposed face.
2. Allowable Variation from True Line: =1/4-inch in 20-feet.

3.02 Repair, Cleaning and Protection

- A. Repair minor damage to eliminate all evidence of repair. Clean exposed surfaces using non-abrasive materials and recommended methods. Remove and replace damaged or unsuitable work that cannot be successfully cleaned or repaired.
- B. Provide temporary protection to ensure work is without damage or deterioration at time of final acceptance. Remove protections and re-clean as necessary immediately before final acceptance.
- C. After completion of the work in this Section, the Contractor shall remove all debris, materials, rubbish, etc. from the site and legally dispose of them. New or existing improvements that have been damaged in the work under this Contract shall be repaired to the satisfaction of the Landscape Architect.

END OF SECTION

SECTION 32 18 00 - RECREATIONAL SURFACING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

- A. All of the Contract Documents, including General and Supplementary Conditions and Division 1 apply to the work of this Section.

1.2 DESCRIPTION OF WORK

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform all paving operations complete as shown on drawings and specified herein.
- B. Work includes, but is not limited to the following:
 - 1. Poured-in-Place Rubber Safety Surfacing
 - 2. Tile Safety Surfacing
 - 3. Color Surfacing for Pavement Play Games
 - 4. Cleaning, Repair and Protection

1.3 RELATED WORK

- A. Carefully examine the site and all of the Contract Documents for requirements that affect the work of this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions. Other specifications sections that directly relate to the work of this Section include, but are not limited to, the following:
- B. The following related items are included under the Sections list below:
 - 1. Section 11 68 00 – Play Equipment
 - 2. Section 31 20 00 – Excavation, Filling and Grading
 - 3. Section 32 12 00 – Asphalt Paving
 - 4. Section 32 13 13 – Portland Cement Concrete
 - 5. Section 32 30 00 – Site Improvements
 - 6. Section 32 31 00 – Fences and Gates
 - 7. Section 33 40 00 – Storm Drainage Utilities
- C. The work of this Section shall be coordinated with that of other trades affecting, or affected by, this work, as necessary to assure the steady progress of all work of the Contract.

1.4 REFERENCES

- A. The following related items are included herein and shall mean:
 - 1. S.S.H.B. - Standard Specifications for Highways and Bridges, the Commonwealth of Massachusetts, Department of Public Works, latest edition.
 - 2. A.S.T.M. - American Society for Testing and Materials.

B. American Society of Testing and Materials (ASTM)

1. 355 Shock Absorbing Properties of Playing Surface Systems and Materials (GMAX)
2. F1292 Impact Attenuation of Surface Systems Under and Around Playground Equipment
3. F1951 Determination of Accessibility of Surface Systems Under and Around Playground Equipment

1.5 SUBMITTALS

A. Submit Poured-in-Place Rubber manufacturer's Product Literature including IPEMA certification, Specification Data and installation instructions.

1. Provide color samples (12" x 12" square, up to 8 samples) to Owner/Landscape Architect
2. Submit test results for impact attenuation in accordance with ASTM F 1292 Standard Specification and accessibility in accordance with ASTM F1951.
3. Provide Manufacturer's Warranty for Owner's acceptance.

B. Submit Tile Safety Surfacing manufacturer's Product Literature including IPEMA certification, Specification Data and installation instructions.

1. Provide color samples (6" x 6" square, up to 6 samples) to Owner/Landscape Architect
2. Submit test results for impact attenuation in accordance with ASTM F 1292 Standard Specification and accessibility in accordance with ASTM F1951.
3. Provide Manufacturer's Warranty for Owner's acceptance.

C. Submit installer qualifications (Manufacturer-certified installer of system).

1. Installers of the rubber safety surface system shall have five (5) years experience, minimum, and shall provide three (3) local references where installation can be inspected.

D. The General Contractor shall verify by field inspection that all items within this section conform to the specified requirements and approved submittals prior to installation.

1.6 DELIVERY, STORAGE AND HANDLING

A. Deliver materials and products and provide adequate protection against damage. Handle in strict compliance with manufacturer instructions and recommendations and store off the ground. Protect from all possible damage including, but not limited to chipping, staining, cracking and other damage. Sequence deliveries to avoid delays, but minimize on-site storage.

1.7 COORDINATION

- A. The work of this Section shall be coordinated with that of other trades affecting, or affected by, this work as necessary to assure the steady progress of the work of this Contract.
- B. Start of work under this Section shall constitute acceptance of the foundation conditions to which this work is to be applied. Any defects in work resulting from such conditions shall be corrected under this Section, at no extra cost to the Owner.
- C. Substrates: Proceed with work only when substrate construction and penetrating work is complete. Maintain the sub-base in satisfactory condition and properly drained until surface improvement is placed.

1.8 GUARANTEE

- A. The Contractor shall deliver standard written manufacturer's guarantee in the Owner's name covering all materials and workmanship. In addition to the specific guarantee requirements of the GENERAL CONDITIONS and SUPPLEMENTARY GENERAL CONDITIONS, the Contractor shall provide the manufacturers' standard written warranty for each product within this specification. All of these guarantees shall be in addition to, and not in lieu of, other liabilities that the Contractor may have by law or other provisions of the Contract Documents.

PART 2 - PRODUCTS

2.1 GRADING AND COMPACTION OF SUB-BASE

- A. Do all necessary grading in addition to that specified under Section 31 20 00 - EARTHWORK to bring subgrade or foundation after final compaction to required grades and sections to obtain a foundation of uniform bearing surface. In absence of specific requirements, compact foundation by such means as will provide firm base and insurance against settlement of superimposed work.
- B. Sub-base preparation, including material, shall be of properly approved quality as specified under Section 31 20 00 - EARTHWORK. Start of work under this Section shall constitute acceptance of the foundation conditions to which this work is to be applied. Any defects in work resulting from such conditions shall be corrected under this Section, at no additional cost to the Owner.

2.2 POURED-IN-PLACE RUBBER SAFETY SURFACING

- A. Furnish and install Poured-in-Place Rubber Safety Surface complete with gravel base, subdrainage and concrete edging per the Contract Documents.
- B. Poured-in-Place material shall be "Playbound" 2-layer poured-in-place by Surface America, www.surfaceamerica.com, PO Box 157, Williamsville, NY 14231; Telephone: (800) 999-0555, Fax: (716) 632-8324 or Landscape Architect approved equal.
 - 1. Primer shall be as per manufacturer's system, and recommended by manufacturer.

2. Cushion Course: blend of 100% recycled SBR (Styrene Butadiene Rubber) and aromatic polyurethane binder. Cushion course thickness per the Contract Documents, and final poured-in-place surfacing depth shall be in accordance with fall height CPSC safety requirements. Required mix proportions by weight: as ratio 14% aromatic urethane divided by 86% rubber
3. Top Surface; thickness shall be per the Contract Documents. Required mix proportions by weight: as ratio 18% aliphatic urethane divided by 82% rubber.
3. Top Surface; thickness shall be per the Contract Documents. Required mix proportions by weight: as ratio 18% urethane divided by 82% rubber.
 - a. Color Surface A: 100% standard color Light gray EPDM ((Ethylene Propylene Diene Monomer) with aliphatic polyurethane. Mix proportions by weight.
 - b. Color Surface B: 100% standard color orange EPDM ((Ethylene Propylene Diene Monomer) with aliphatic polyurethane. Mix proportions by weight.
 - c. Color Surface C: 100% standard color sky blue EPDM ((Ethylene Propylene Diene Monomer) with aliphatic polyurethane. Mix proportions by weight.
- C. All colors shall be submitted by the contractor, and approved by Landscape Architect.
- D. Materials shall not contain hazardous substances, such as toluene, lead, or mercury compounds or cadmium coloring pigments.
- E. The finished surface shall be slip-resistant; supply ASTM-E-303 slip characteristic test results.
- F. Material shall be ignition-resistant; supply passing ASTM-D 2859 test results.
- G. Material shall be water-permeable, and wear and weather-resistant. Sealants shall be low odor and non-yellowing.
- H. Binders utilizing latex or emulsion type binder will not be accepted. Pre-fabricated shock pads will also not be considered equal.

2.3 TILE SAFETY SURFACING

- A. Furnish and install resilient Tile Safety Surface complete with gravel base, asphalt binder course per Section 32 12 00 – Asphalt Paving, and per the Contract Documents.
- B. Tile material shall be “UltraTile” by Surface America, www.surfaceamerica.com, PO Box 157, Williamsville, NY 14231; Telephone: (800) 999-0555, Fax: (716) 632-8324 or Landscape Architect approved equal.
 1. Tile shall be factory-molded surface composed of 100% recycled SBR (Styrene Butadiene Rubber) with aromatic polyurethane binder, and 3mm top

surface EPDM rubber granules with aliphatic polyurethane binder, and have tapered conical support legs.

2. Size: 24"x24", 4 1/4" thickness, color to match the poured in place surfacing color where tiles are located.
 3. Adhesive shall be as per manufacturer's system, and recommended by manufacturer.
- D. Color shall be submitted by the Contractor, and approved by Landscape Architect.
 - E. Materials shall not contain hazardous substances, such as toluene, lead, or mercury compounds or cadmium coloring pigments.
 - F. The finished surface shall be slip-resistant; supply ASTM-E-303 slip characteristic test results.
 - G. Material shall be ignition-resistant; supply passing ASTM-D 2859 test results.
 - H. Material shall be water-permeable, and wear and weather-resistant. Manufacturer's Warranty shall be for 10 years from date of substantial acceptance.

2.4 COLOR SURFACING

- A. Colored surfacing for basketball court and pavement play games shall be a high quality water-borne acrylic finish with and epoxy additive as manufactured by Pattern Paving Products, 1-888-434-8611 or approved equal. The paint shall be suitable for application by brush, spray or roller using masking tape or templates. This paint shall be suitable for use over all types of bituminous surfaces and when applied over emulsified asphalt, it shall not cause lifting, crazing, peeling, or other damage to the base.
 - a. The coloring system shall consist of no less than 95% pure inorganic iron oxide pigments in a waterbase liquid carrier. Pigment particle size (fineness) must pass 95% minus 325 mesh. Coloring system must be alkali resistant, water insoluble, inert, light resistant, inorganic, and lime-proof.
 - b. The color system must be durable, asbestos-free, color-in-depth surface compatible with the plant mix asphalt surface.
 - c. The system shall consist of a combination of texture/filler coats and a finish coat that will provide a long-wearing color surface of uniform texture, protect the surface from ultraviolet rays and allows moisture to breathe through the dried film.

PART 3 - EXECUTION

3.1 SUBBASE, EDGING AND DRAINAGE

- A. Install edging system in accordance with the drawings and per the manufacturer's recommendations. Install the subdrains as indicated on the Drawings. Install gravel base where indicated on the drawings and in accordance with Section 31 00 00 Excavation Filling and Grading

3.2 POURED-IN-PLACE RUBBER SAFETY SURFACE

- A. Contractor shall provide copies of testing procedures and results, performed by an independent testing source, which demonstrate compliance with the CPSC and ASTM guidelines. Per CPSC and ASTM F-1292 Critical Height testing procedures at 30, 72, and 120 degrees F, the installed surface shall pass the 150 G-max and 750 HIC test for a height at least equal to the highest fall height of equipment as installed within its zone.
- B. When installed, the system shall be handicapped-accessible and comply with the Civil Rights Restoration Act of 1987 and the Americans with Disabilities Act of 1990 (ADA). Surface must comply with Massachusetts Architectural Access Board accessibility requirements and ASTM F1951.
- C. Contractor shall provide a written five (5) year performance guarantee from date of substantial completion. The manufacturer shall provide a written guarantee for three (3) years from date of installation against decay and biochemical degradation calling for replacement of defective materials during the guarantee period. Contractor shall install system so as to comply with manufacturers' warranty requirements.
- D. Install material per manufacturer's specifications.

3.3 TILE SAFETY SURFACING

- A. Installation shall be as recommended by the manufacturer and shall be to the depths and widths indicated on the drawings.
- B. Do not proceed with playground surfacing installation until all applicable site work, including asphalt substrate preparation, playground equipment installation and other relevant work has been completed.
- C. Surface preparation: ensure that the asphalt substrate is uniformly sloped or level since surface variations will be telegraphed through to the rubber tile surface.
- D. Layout rectangular tiles as shown on the drawings. Coordinate with poured-in-place safety surfacing. Avoid placement when large temperature swings during the time between adhesive application and final curing are expected, as gapping between tiles may result. Apply adhesive per manufacturer's recommendations.
- E. Contractor shall provide copies of testing procedures and results, performed by an independent testing source, which demonstrate compliance with the CPSC and ASTM guidelines. Per CPSC and ASTM F-1292 Critical Height testing procedures at 30, 72, and 120 degrees F, the installed surface shall pass the 150 G-max and 750 HIC test for a height at least equal to the highest fall height of equipment as installed within its zone.

- F. When installed, the system shall be handicapped-accessible and comply with the Civil Rights Restoration Act of 1987 and the Americans with Disabilities Act of 1990 (ADA). Surface must comply with Massachusetts Architectural Access Board accessibility requirements and ASTM F1951.
- G. Contractor shall provide a written five (5) year performance guarantee from date of substantial completion. The manufacturer shall provide a written guarantee for ten (10) years from date of installation against decay and biochemical degradation calling for replacement of defective materials during the guarantee period. Contractor shall install system so as to comply with manufacturers' warranty requirements.

3.4 COLOR SURFACING

- A. Prior to the application of the color surfacing system, the court shall be flooded with water and allowed to drain. Any depression holding water deeper than one-sixteenth inch shall be patched and leveled in accordance with recommendations of the manufacturer of the color finish material and to the satisfaction of the Landscape Architect.
- B. The asphalt surface shall be allowed to cure for at least 14 days prior to application. The asphalt surface shall be thoroughly cleaned and free of grease, oils and other foreign material and shall be dry and properly prepared to receive the surface system. Net post sleeves, center strap anchors and fence posts shall be installed and approved by the Landscape Architect prior to beginning application. Application work shall be performed by skilled mechanics in a workmanlike manner in accordance with the manufacturer recommendations; however, no work shall be performed when rain or high humidity is imminent or when the temperature is below 55-degrees Fahrenheit. If surface temperature is in excess of 140-degrees, material shall not be applied.
- C. Edges, posts, curbing and landscaping not to be coated with the Color Finish System shall be adequately masked with tape or otherwise protected during these applications. The contractor shall also erect appropriate temporary barriers to protect the coatings during drying and curing periods.
- D. Over the prepared asphalt surface, apply multiple filler coats in accordance with the manufacturer's directions at a rate of not less than 0.08 - 0.1 gallons per square yard total for a total thickness of 1/16 inch. If the asphaltic surface course is not covered to a uniform, even texture, free of all porosity, additional filler coats shall be applied to attain uniformity, at no additional cost to the Owner. Filler coats shall be applied in alternating directions lengthwise and crosswise to the court.
- E. Prior to applying the finish coat, a final, careful inspection of the entire surface shall be made to remove any ridges, bumps and loose or foreign particles.
- G. The final Finish Coat shall be applied in accordance with the manufacturer's instructions.
- H. Color marking for the pavement play games shall minimum of 3 coats applied for each game line marking. The color markings shall be applied in conformance with the manufacturer's recommendations after the application of the base color over the paved area.

3.5 CLEANING, REPAIR AND PROTECTION

- A. Repair minor damage to eliminate all evidence of repair. Remove and replace work that cannot be satisfactorily repaired.
- B. Provide temporary protection to ensure that the work will be without dirt, stains, damage or deterioration at time of final acceptance. Clean up stains and spills as they occur. Remove protections and clean as necessary immediately before final acceptance.
- C. Upon completion of the work and before acceptance, the Contractor shall remove and dispose of in an approved manner all surplus materials, rubbish, etc. which the Contractor may have accumulated during the course of the work and shall leave the site in a clean and orderly condition. The Contractor shall not abandon any material at or near the site regardless of whether or not it has any value.

END OF SECTION

32 30 00 SITE IMPROVEMENTS

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions of the Contract, including Division 00 and Division 01, apply to the work under this Section.
- B. All references to products by manufacturer, trade name or performance Specifications bearing the connotation "or approved equal" shall be as determined by the Landscape Architect and the City.

1.02 Work Includes

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform all site improvements complete as shown on the Drawings and specified herein.
- B. To be included, but not limited to the following:
 - 1. Grading and Compaction of Base Course
 - 2. Concrete Footings for all Site Improvement Items
 - 3. Semicircle Bench
 - 4. Bench
 - 5. Outdoor Classroom Improvements:
 - a) Raised Bed Planter
 - b) Precast Concrete Stepping Stone
 - c) Outdoor Whiteboard
 - d) Sitting Log
 - e) Sitting Boulder
 - 6. Polyethylene Storage Bin
 - 7. Steel Edging
 - 8. Stabilized Aggregate Surfacing
 - 9. Water Bottle Filling Station
 - 10. Drinking Fountain
 - 11. Timber Platform
 - 12. Yard Hydrant and Water Supply – ADD ALTERNATE 1

- 13. Sitting Cube
- 14. Cleaning, Repair, and Protection

1.03 References

- A. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades and all departments of the City of Somerville and coordinate all work under this Section therewith.
- B. The following related items are included under the Sections listed below:
 - 1. Section 01 23 00 - Alternates
 - 2. Section 02 41 00 – Site Preparation and Demolition
 - 3. Section 31 00 00 – Excavation, Filling and Grading
 - 4. Section 32 12 16 – Asphalt Paving
 - 4. Section 32 13 13 – Portland Cement Concrete

1.04 Submittals

- A. Shop Drawings and Samples
 - 1. Provide complete material, finish and color information to fully evaluate conformance with the specified requirements for products in this Section. Where products are assemblies or fabrications, provide manufacturer's specifications for all components and hardware.

1.05 Product Delivery, Storage and Handling

- A. Deliver materials in manufacturer's original unopened and undamaged packages with labels legible and intact.
- B. Store materials in unopened packages in a manner to prevent damage from the environment and construction operations.
- C. Handle in accordance with manufacturer's instructions.

1.06 Definitions

- A. The following items are included herein and shall mean:
 - 1. S.S.H.B. - Standard Specifications for Highway and Bridges, the Commonwealth of Massachusetts, Department of Transportation, latest edition.
 - 2. A.S.T.M. - American Society for Testing and Materials. The following standard specifications are applicable to the associated items as listed.
 - 3. MAAB: Massachusetts Architectural Access Board.

4. ADA: Americans with Disabilities Act and its current regulations.
5. CPSC: Consumer Product Safety Commission.

PART 2 - PRODUCTS AND EXECUTION (Combined)

2.01 Grading and Compaction of Sub-Base

- A. Do all necessary grading in addition to that specified under Section 31 20 05 – Excavation, Filling and Grading to bring subgrade or foundation after final compaction to required grades and sections to obtain a foundation of uniform bearing surface. In absence of specific requirements, compact foundation by such means as will provide firm base and insurance against settlement of superimposed work.
- B. Sub-base preparation, including material, shall be of properly approved quality as specified under Section 31 00 00 – Excavation, Filling and Grading. Start of work under this Section shall constitute acceptance of the foundation conditions to which this work is to be applied. Any defects in work resulting from such conditions shall be corrected under this Section Site Improvements, at no additional cost to the Owner.

2.02 Concrete Footings for Site Improvement Items

- A. Construct concrete footings where shown on the Drawings.
- B. Concrete footings shall comply with Section 32 13 13 Concrete.
- C. Place concrete on moist subgrade or against prepared footings in continuous operation between transverse joints or individual sections. Vibrate all concrete. Do not place concrete in freezing temperatures or on frozen base.

2.03 Semicircle Bench

- A. Furnish and install a painted steel, backless, surface mounted, semicircle bench as indicated on the drawings, per the manufacturer specification, and as described herein.
- B. Semicircle Bench Manufacturer: semicircular bench shall be by Custom Fabrication, Inc., PO Box 431, Harpersville, NY 13787, 607-693-3223 (Model: CFPB-018) per City of Somerville, MA Parks Specifications Handbook (Bench: Rounded) or approved equal.
- C. Submit product information, color and finish materials samples for review and approval.

2.04 Bench

- A. Furnish and install a painted steel, surface mounted, bench with armrests as indicated on the drawings, per the manufacturer specification, and as described herein.
- B. Bench Manufacturer: bench shall be by Custom Fabrication, Inc., PO Box 431, Harpersville, NY 13787, 607-693-3223 (Model: CFPB-018-02) per City of

Somerville, MA Parks Specifications Handbook (Bench: Black Steel Ribbon Street Bench) or approved equal.

- C. Submit product information, color and finish materials samples for review and approval.

2.05 Outdoor Classroom Improvements

A. Raised Planter with Root Viewing Window

1. Composite wood cap façade shall be Trex Transcend decking or approved equal. Color approval by landscape architect.
2. Reinforcing rods to be #6 (3/4") re-bar, at least 2 per timber, 4' on center maximum.
3. Window shall be clear tempered safety glass.

B. Precast Concrete Stepping Stones

1. Precast concrete stepping stones shall be in accordance with ASTM C33/ASTM C150-07. Minimum 28-day compressive strength must meet or exceed 5,000 psi.
2. Appearance: Submit color and finish materials samples for review and approval.
3. Installation: Install precast concrete stepping stones where located on the drawings, and as described herein.
4. Size: 24"x24". Thickness: 2"-2-1/2". Spacing and pattern as show on drawings. Top surface shall be relatively flat, not deviating more than 1/4".
5. Joints shall be thoroughly compacted to provide a flush finished surface fully compliant with ADA and MAAB.

C. Outdoor Whiteboard

1. Furnish and install in accordance with the drawings.
2. Permanent Install White board with frame provided by others.

D. Sitting Log

1. Provide wood sitting logs cut cleanly and perpendicular to the trunk. Wood shall be black locust. Lengths of pieces shall vary from 5' to 7' as directed by Landscape Architect.

E. Sitting Boulder

1. Provide granite sitting boulders buried in such a way that their widest circumference is flush with the finish grade. No less than 30% and no more than 40% of the boulder height should be buried below grade. Boulder circumferences shall vary from 2' to 3' as directed by Landscape Architect.

2.06 Polyethylene Storage Bin

- A. Polyethylene Storage Bin Manufacturer: bin shall be by Rubbermaid, Inc., 3009 Gilchrist Road, Akron, OH, 44305, 888-895-2110 (Model: XL Deck Box or approved equal.
- B. Furnish and deliver two weatherproof, lockable polyethylene storage containers with a minimum capacity of 130 gallons.

2.07 Steel Edging

- A. Furnish and install steel edging as indicated in the Drawings and Details
- B. Edging shall be 4" width, 3/16" thick x 16' length. Black painted with anchor stake loops stamped in face of section 32" on center. Use 15" tapered steel anchoring stakes (3/16" thick) provided by manufacturer. Edging and stakes to be finished with enamel paint.
- C. Steel edging shall be installed in a radial alignment in accordance with the drawings.

2.08 Stabilized Aggregate Surfacing

- A. Shall consist of inert materials that are hard and durable, with stone free from surface coatings and deleterious materials.

Sieve No.	Percent Passing by Weight
# 3/8"	100
# 4	90 – 100
# 8	75 – 80
# 16	55 – 65
# 30	40 – 50
# 50	25 – 35
# 100	15 – 20
# 200	10 – 15

- B. Compact to 95% to provide a firm, stable and slip resistant surface. Color to be grayish blue, and as approved by Architect. Install with stabilizer in accordance with manufacturer's recommendations. Submit 3 color samples for approval
- C. Stabilizer Binder
 - a. Basis of design: Stabilizer Solutions, 33 South 28th St, Phoenix, AZ, 800-336-2468 or approved equal
 - b. Non-toxic, organic binder that is a colorless and odorless concentrated Powder that binds crushed 3/8" or 1/4" minus aggregate.
 - c. Stabilizer binder shall be suitable for use around tree plantings to allow water infiltration and air movement.

2.09 Water Bottle Filling Station

- A. Water Bottle Filling Station Manufacturer: bottle filling station shall be by Elkay Manufacturing Company, Inc., 2222 Camden Court, Oak Brook, IL 60523, 630-574-8484 (Model: LK4405BF) or approved equal.
- B. General Components:
 - 1. FINISH: Steel Outdoor Wall Mount Fountain with Bottle Filling Station with rounded corner design, heavy-duty steel with textured powder-coat finish and corrosion protection. Couplings shall be corrugated to match the pipe corrugations. Split couplings shall be manufactured to engage an equal number of corrugations on each side of the pipe joint.
 - 2. BOTTLE FILLER: Unit shall provide fill at 1 gallon per minute. Laminar flow provides a clean fill with minimal splash and easy maintenance.
 - 3. PUSHBUTTON ACTUATION MECHANISM: Unit shall include a self-closing, vandal-resistant pushbutton.
 - 4. INLET STRAINER: In-line strainer screen shall trap particles of 140 microns or larger before they enter the waterway.
 - 5. WATER INLET & DRAIN OUTLET: Inlet: 3/8" O.D. Tubing Outlet: 1-1/4" tube outlet for 1-1/4" slip joint connection
 - 6. ACCESS PANELS: Heavy-gauge steel panel shall be attached with vandal-resistant screws.
 - 7. COMPLIANCE: Fountain shall comply with ANSI 117:1 and ADA for visual and motion disabilities. The manufacturer shall certify the unit to meet the requirements of NSF/ANSI 61, and the Safe Drinking Water Act.

2.10 Drinking Fountain

- A. Water Bottle Filling Station Manufacturer: bottle filling station shall be by Elkay Manufacturing Company, Inc., 2222 Camden Court, Oak Brook, IL 60523, 630-574-8484 (Model: LK4405) or approved equal.

B. General Components:

1. FINISH: Steel Outdoor Wall Mount Drinking Fountain, heavy-duty steel with textured powder-coat finish and corrosion protection. Couplings shall be corrugated to match the pipe corrugations. Split couplings shall be manufactured to engage an equal number of corrugations on each side of the pipe joint.
2. BUBBLER STYLE: Unit shall include a self-closing, vandal-resistant front bubbler button.
3. INLET STRAINER: In-line strainer screen shall trap particles of 140 microns or larger before they enter the waterway.
4. WATER INLET & DRAIN OUTLET: Inlet: 3/8" O.D. Tubing Outlet: 1-1/4" tube outlet for 1-1/4" slip joint connection
5. COMPLIANCE: Fountain shall comply with ANSI 117:1 and ADA for visual and motion disabilities. The manufacturer shall certify the unit to meet the requirements of NSF/ANSI 61, and the Safe Drinking Water Act.

2.11 Timber Platform

- A. Furnish and install in accordance with the drawings
- B. Composite wood decking and fascia board shall be Trex Transcend decking or approved equal. Color approval by landscape architect.

2.12 Yard Hydrant & Water Supply

- A. Refer to City of Somerville, MA Parks Specifications Handbook (Yard Hydrant)
- B. Provide a price to furnish and install one yard hydrant, granite post mounting and 1" HDPE water line, trenched and backfilled at 18" depth to winterization drain valve in irrigation valve box at grade against exterior of existing building and 3/4" copper pipe connection to water source point of connection. Add Alternate #1 price shall include the following 3/4" point of connection water source to be performed by a licensed plumber: Install wall-mounted backflow preventer cross connection device, core through exterior building wall and seal copper pipe, to connect to interior plumbing with a winterization drain valve and stainless steel ball shut off valve.

2.13 Sitting Cube

- A. Sitting Cube Manufacturer: sitting cube shall be by Wasau Made, Inc., PO Box 1520, Wausau, WI, 54402, 715-355-4627 (Model: 2401) or approved equal.
- B. Furnish and deliver three sitting cubes installed on concrete footings as indicated on the plans and details.
- C. General Components:

1. GENERAL: UV stable plastic square cube mounted to a concrete footing per manufacturer specifications
2. DIMENSIONS: 19" x 17" x18"

2.14 Cleaning, Repair and Protection

- A. Repair minor damage to eliminate all evidence of repair with comparable materials. Remove and replace work that cannot be satisfactorily repaired.
- B. Provide temporary protection to ensure that the work will be without dirt, stains, damage or deterioration at time of final acceptance. Clean up stains and spills as they occur. Remove protections and clean as necessary immediately before final acceptance.
- C. Upon completion of the work and before acceptance, the Contractor shall remove and dispose of in an approved manner all surplus materials, rubbish, etc. which the Contractor may have accumulated during the course of the work and shall leave the site in a clean and orderly condition. The Contractor shall not abandon any material at or near the site regardless of whether or not it has any value.

END OF SECTION

32 31 00 – FENCES AND GATES

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions of the Contract, including Division 00 and Division 01, apply to the work under this Section.
- B. All references to products by manufacturer, trade name or performance Specifications bearing the connotation "or approved equal" shall be as determined by the Landscape Architect and the City.

1.02 Work Included

- A. Provide all labor, equipment, implements and materials required to furnish, install, construct and perform all site improvements complete as shown on the Drawings and specified herein.
- B. To be included, but not limited to the following:
 - 1. Black Vinyl Coated Chain Link Fences and Gates
 - 2. Ornamental Steel Gate

1.03 References

- A. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades and all departments of the City of Somerville and coordinate all work under this Section therewith.
- B. The following related items are included under the Sections listed below:
 - 1. Section 02 41 00 – Site Preparation and Demolition
 - 3. Section 31 00 00 – Excavation, Filling and Grading
 - 4. Section 31 12 16 – Asphalt Paving
 - 5. Section 32 13 13 – Portland Cement Concrete

1.04 Submittals

- A. Shop Drawings and Samples
 - 1. Provide complete Shop Drawings and/or samples and catalog cuts for all items called for on the Drawings and as specified and in accordance with applicable requirements under Division One. Refer to individual items specified herein for additional submittal requirements.

1.05 Product Delivery, Storage and Handling

- A. Deliver materials in manufacturer's original unopened and undamaged packages with labels legible and intact.
- B. Store materials in unopened packages in a manner to prevent damage from the environment and construction operations.
- C. Handle in accordance with manufacturer's instructions.

1.06 Definitions

- A. The following items are included herein and shall mean:
 - 1. S.S.H.B. - Standard Specifications for Highway and Bridges, the Commonwealth of Massachusetts, Department of Transportation, latest edition.
 - 2. A.S.T.M. - American Society for Testing and Materials. The following standard specifications are applicable to the associated items as listed.
 - a. A36...Steel
 - b. A153...Zinc Coating (hot-dip) on hardware
 - c. A307...Carbon Steel bolts 66000 psi tensile
 - d. F2049...Fences/Barriers for Public Use Outdoor Play Areas
 - 1. AAB: Architectural Access Board.
 - 2. ADA: Americans with Disabilities Act and its current regulations.
 - 3. AWS: American Welding Society.
 - 4. CPSC: Consumer Product Safety Commission.
 - 5. SSPS: Steel Structures Painting Council.

PART 2 - PRODUCTS

2.01 Paint

- A. Primer shall be Rust-Oleum #7785, Zinc Sele or equal.
- B. Finish paint shall be Rust-Oleum #7779402 Professional High Performance Protective Enamel in gloss black.

2.02 Black Vinyl Coated Chain Link Fence and Gates

- A. Submittals:
 - 1. Product information: Provide manufacturer's product data for all fence components demonstrating conformance with materials, sizes and finishes specified herein and indicated on the Drawings.
 - 2. Shop Drawings: Supply shop drawings at an approved scale for location, installation and erection of all components of the chain link fence and gates.

- B. Scope: This specification describes materials and installation requirements for chain link fencing and gates including chain link fabric, framework, fittings and hardware. All chain link fencing and gates shall be black vinyl coated. Fence heights are as indicated on the drawings.
- C. PVC Coating: Fence fabric and framework shall be thermally-fused vinyl coating over galvanized steel. "A Bonded or extruded and glued" fabric will not be accepted.
- D. Color: All fence material including fabric, framework, fittings and hardware shall be black.
- E. Fabric: Shall be a 2" diamond mesh thermally fused in accordance with ASTM F668-2b. Unless otherwise indicated on the Details, all chain link fence fabric shall be 6-gauge wire = 0.192" core wire with a minimum breaking strength of 2170 pounds. Limited use of 9-gauge fabric specifically indicated on the Drawings shall be 9-gauge wire = 0.148" core wire and a minimum breaking strength of 1,290 pounds. The weight of the zinc coating on the steel wire shall be 0.3 oz. per square foot minimum. Chain link fabric shall be color matched with framework materials. Fabric shall be knuckled at both selvages.
- F. Framework: Shall consist of terminal posts, line posts, top rail, bottom rail, intermediate horizontal rails, braces and gate frames.
- G. Posts and rails shall be steel pipe, Type 1: ASTM F 1083, standard weight, schedule 40, minimum yield strength of 25,000 psi, sizes as indicated below. Before color is applied, all materials shall be given a minimum 1.8 ounce per s.f. coating of zinc. PVC-coated finish shall be applied in accordance with ASTM F 1234, apply supplemental color coating of 10-15 mils (0.254-0.356 mm) of thermally fused PVC.

Provide continuous mid rails for fences 8' and greater in height.

Post or Rail	Outside Diameter	Pounds/Foot
Gate Post(1)	6.625"	18.97
End Corner & Pull Post	4.0"	9.10
Line Post	2.875"	5.79
Top and Bottom Rail	1.660"	2.27
Mid Rails	1.660"	2.27

(1) One gate post to match net end post as indicated on the Drawings. All other gate posts shall be 4.0" O.D.

- H. Top rail couplings 6-inch minimum in length shall be spaced at maximum 20-foot centers and 9 gauge minimum fabric tie wires shall be spaced as indicated on the Detail.
- I. Gate: Gate opening shall be as indicated on the drawings. Gate height shall conform to the height of the fence unless otherwise indicated. Single gate frames, 6 feet wide or less shall be made of galvanized 1.66-inch O.D. schedule 40 vinyl coated pipe. Single gate frames over 6 feet wide shall be 1.90" O.D. Gate frames shall be

fabricated with welded corners and braces. Suitable black vinyl coating shall be manually and neatly applied to the welds after fabrication. Frame shall be filled with chain link fabric of the same gauge and size as the fence. Gatepost hinges shall be heavy duty commercial grade sized for gate panel and allow a 180-degree swing. Braces and trusses shall be furnished as specified. Gates shall include a heavy duty galvanized and vinyl coated positive latching device that will accommodate a long-loop padlock and secure the gates in a closed position. Double gate shall include a drop rod that can be locked in the closed position.

J. Accessories:

1. Chain link fence accessories: ASTM F 626, Provide items required to complete fence system. Galvanized, each ferrous metal item in accordance with ASTM A 153 and black finish to match framing.
2. Post Caps: Formed steel, weathertight closure cap. Provide one cap for each post. Caps shall be affixed to the post so as to prevent removal.
3. Stretcher Bars: One piece lengths equal to 2-inches less than full height of fabric with a minimum cross section of 3/16 inch x 3/4-inch . Provide stretcher bars where chain link fabric meets terminal posts.

- K. General: Certain components not adaptable to the coating process specified herein may be color coated by other means. All fittings shall be pressed steel or malleable iron. Tie wires shall be minimum 9 gauge PVC coated aluminum. Line and terminal posts to be of sufficient length to be set to the full depth of concrete footing indicated on the Drawings. Maximum spacing of line posts shall be 10-feet.

2.03 Ornamental Steel Picket Gate

- A. The commercial ornamental steel gate system shall be Ameristar Montage Plus Commercial, 3-Rail style Majestic manufactured by Ameristar Fence Products, Inc. in Tulsa, Oklahoma or Architect approved equal.
- B. Steel material for gate framework (i.e. tubular pickets, rails and posts), when galvanized prior to forming, shall conform to the requirements of ASTM A653/A653M, with a minimum yield strength of 45,000 psi (310 MPa). The steel shall be hot-dip galvanized with a minimum zinc coating weight of 0.60 oz/ft² (276 g/m²), Coating Designation G-60.
- C. The manufactured galvanized framework shall be subjected to an inline electrode position coating (E-Coat) process consisting of a multi-stage pretreatment/wash (with zinc phosphate), followed by a duplex application of an epoxy primer and an acrylic topcoat. The minimum cumulative coating thickness of epoxy and acrylic shall be 2 mils (0.058 mm). The coated panels and posts shall be capable of meeting or exceeding the coating performance criteria of ASTM F2408. The color shall be Black.
- D. Material for fence pickets shall be 3/4" square x 14 Ga. tubing. The cross-sectional shape of the rails shall be 1.5" x 1.4375" x 14Ga. Picket holes in the rail shall be spaced 4.675" o.c. Typical posts shall be a minimum of 2-1/2" square x 14 Ga. High quality PVC grommets shall be supplied to seal all picket-to-rail intersections. Post capes shall be epoxied to posts.

- E. The manufactured fence system shall be capable of meeting the vertical load, horizontal load, and infill performance requirements for Industrial weight fences under ASTM F2408.
- F. Gates shall be Ameristar Montage Plus Commercial, 3-Rail style Majestic manufactured by Ameristar Fence Products, Inc. in Tulsa, Oklahoma or Architect approved equal. Gates shall be fabricated using fusion welded ornamental panel material and 1-3/4" square x 14 Ga. gate ends. Gate posts shall be 3" square x 12 Ga. All rail and upright intersections shall be joined by welding. All picket and rail intersections shall also be joined by welding. Rail location to match adjacent steel picket fence.
- G. Hinges shall be steel, 180 degree swing, concealed hydraulic, self-closing gate hinges with a maximum self closing gate weight of 260 lbs and a point load capacity of 1,500 lbs per gate. Hinges shall be SureClose 108 AT90W as manufactured by D & D Technologies, Huntington Beach, CA or approved equal.
- H. Cast-in-place concrete for footings of fence posts shall meet the requirements and applicable provisions of Section Portland Cement Concrete, and shall be provided, installed, and paid for under this Section. Forms for footings shall be per the required sizes shown on the Contract Documents. Footing depths and detailing shall be as shown on the Contract Documents.

PART 3 - EXECUTION

3.01 Black Vinyl Coated Chain Link Fence

A. Fence Erection

- 1. Install fences as indicated on the Plan and in accordance with the Details. Fence installation includes four general categories of fence construction as indicated on the Drawings.
 - a. Existing galvanized steel fence posts to be primed and painted prior to installation of new rails, fabric, accessories and hardware as specified herein.
 - b. Existing fence posts to be sleeved with new posts to provide the height indicated on the drawings prior to installation of new rails, fabric, accessories and hardware as specified herein.
 - c. Complete new fence and gates.
 - d. New fence and gate integrated with the Sports Netting specified herein.
- 2. Fabric: Leave approximately 1" between finish grade and bottom selvage. Pull fabric taut and tie to posts and rails. Install fabric on field side of fence and anchor to framework so that fabric remains in tension after pulling force is released.
- 3. Stretcher Bars: Thread through fabric and secure to posts with approved fasteners spaced not over 12" O.C.

4. Wire Ties: Wire ties shall be installed 12" O.C. and securely fastened.
5. Fasteners: Install bolts for tension bands with nuts on side of fence opposite fabric and trim bolts if they extend more than 1/4" beyond the nut after tightening. Trimmed bolts shall be touched up with rust-inhibiting gloss black spray paint.

B. Gate Installation

1. Install gates in accordance with the Detail and approved shop drawing.

3.02 Ornamental Steel Picket Gate

- A. Provide complete installation in accordance with the manufacturer's recommendations and the Drawings. Field cut panels shall follow manufacturer's recommendation for prime and paint. Provide to owner manufacturer supplied zinc and paint touch up pens (2) each.

3.03 Clean Up and Protection

- A. Remove all excess materials from the site and clean up any spills as they occur. Blow or sweep all metal saw dust and metal shavings from finished surfaces to prevent rust staining.
- B. Protect Work of this Section to ensure that the finished work will be without damage or deterioration at time of Substantial Completion.

END OF SECTION

SECTION 33 40 00 - STORM DRAINAGE UTILITIES

PART 1 - GENERAL

1.01 General Requirements

- A. All of the Contract Documents, including General and Supplementary Conditions and Division 1 General Requirements, apply to the work of this section.

1.02 Work Included

- A. The work under this Section shall include the furnishing of all material, labor, equipment and supplies and the performance of all operations to provide a complete working system as required by the Drawings and details and as specified herein, in general, to include the following items:
 - 1. Modifications to existing storm drainage system
 - 2. High Density Polyethylene pipe and fittings (HDPE)
 - 3. Area Drain
 - 4. Drain Grates

1.03 Referenced Work

- A. Examine all other sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all trades and all departments of the City of Somerville and coordinate all work under this Section.
- B. The following related items are included under the Sections list below
 - 1. Section 02 41 00 – Site Preparation and Demolition
 - 3. Section 31 00 00 – Excavation, Filling and Grading
 - 4. Section 32 12 16 – Asphalt Paving
 - 5. Section 32 13 13 – Portland Cement Concrete
 - 7. Section 32 31 00 – Fences and Gates

1.04 Submittals

- A. Refer to Division 1, for submitted provisions and procedures.
 - 1. Product Data: Submit manufacturer's technical product data and installation instructions for storm drain system materials and products. Descriptive literature showing pipe dimensions, pipe and joint materials and dimensions, and other details for each class or type of pipe or product to be furnished for this contract. All pipe furnished under the contract shall be manufactured in accordance with these Specifications.

2. As-Built Drawing: Prior to the acceptance of the storm drainage system, the Contractor shall submit, for review and approval, As-Built Drawings that indicate the true measurement and location, horizontal and vertical, of all new construction.

1.05 Interpretation of Drawings

- A. It is hereby understood that the Contractor has carefully examined the site and all conditions affecting work under this Section. No claim for additional costs will be allowed because of a lack of knowledge of existing conditions as indicated in the Contract Documents, or obvious from observation of the site.
- B. Plans, surveys, measurements and dimensions under which the work is to be performed are believed to be correct, but the Contractor shall have examined them for himself during the bidding period and formed his own conclusions as to the full requirements of the work involved.
- C. All work shall be performed to the true intent and purpose of the drawings and all necessary parts to make complete, approved working systems ready for use, shall be furnished without extra charge.

1.05 Obtaining Information

- A. Obtain from the manufacturer the proper method of installation and connection of the equipment that is to be furnished and installed. Obtain all information that is necessary to facilitate the work and complete the project.

PART 2 - PRODUCTS

2.01 PVC Pipe, Fittings and Covers

- A. The pipe at cleanouts shall be smooth wall Type PS 46 PVC pipe conforming to ASTM F 758.
 1. Fittings shall conform to Annex 1 of ASTM F 758 and to ASTM D 3034.
 2. Joints shall either be gasket type conforming to ASTM D 3212 or solvent cement type conforming with ASTM F 758 and D 2564.

2.02 Corrugated Polyethylene Pipe

- A. General: Provide pipes of the following materials of class indicated. Provide pipe fittings and accessories of same materials and class as pipes with joining method, as indicated. The piping shall be manufactured by an established manufacturer of good reputation in the industry and in a permanent plant adapted to meet all the design requirements of the pipe.
 1. Corrugated perforated polyethylene pipe shall have an interior surface that is smooth and even, free from roughness, projections, indentations, offsets, or irregularities of any kind. Pipe shall conform to AASHTO M-294, AASHTO M252, or AASHTO MP6, Type S depending on the diameter of the pipe required.
 2. Provide perforated pipe at infiltration system.
 3. Pipe and fittings shall be high-density polyethylene meeting the requirements of

ASTM D3350.

4. Pipe shall be installed with a minimum 12-inch cover for AASHTO H-20 loading.

B. Joints on Corrugated Polyethylene Pipe.

1. Corrugated polyethylene pipe and fittings shall be jointed with coupling devices made by the same manufacturer as the piping and of the same material specified for the piping.
2. Coupling bands or external snap couplings shall cover a minimum of one full corrugation in each section of pipe to be joined. Couplings shall have neoprene gaskets to minimize soil infiltration.
3. Pipe entrances at structures shall be made with a mortar made with Type II cement. Mortar mixture shall follow instructions provided by cement manufacturer.
4. Watertight joints shall be provided when indicated on the Contract Drawings.

2.03 Filter Fabric shall be as specified under Section 31 00 00 Excavation, Filling and Backfill.

2.04 Provide H20 loading cast iron ADA-compliant catch basin and area drain grates as indicated on the Drawings.

PART 3 - EXECUTION

3.01 General Requirements

- A. Obtain detailed information from the manufacturers of apparatus as to the proper method of installing and connecting same.
- B. Carefully store materials and equipment that are not immediately installed after delivery. Close open ends of work with temporary covers or plug during construction to prevent entry of obstructing material.
- C. Any defective pipe, fitting or drain apparatus that is discovered after it has been installed or has been installed improperly, shall be removed and replaced with non-defective parts to the satisfaction of the Landscape Architect at the Contractor's expense.
- D. Trenches shall be kept free of water and as dry as possible during the installation of the bedding material, pipe and jointing for as long a period as required. Pipe shall not be laid in water or when trench conditions are unsuitable for the work.
- E. No backfilling shall take place, unless otherwise ordered by the Landscape Architect, until the inspection has been completed.
- F. Excavation, backfill and pipe bedding material shall be in accordance with Section 31 00 00 Excavation, Filling and Backfill.

3.02 Installation of Corrugated Polyethylene Pipe and Pipe Fittings

- A. General: Install piping in accordance with governing authorities having jurisdiction, except

where more stringent requirements are indicated.

- B. Pipe Storage: Pipe sections shall not be stored on areas over the newly placed pipe or other pipelines which might be damaged by the superimposed load, and storage sections shall be restricted to approved areas.
 - C. Handling Pipe: The Contractor will be required to furnish suitable devices to permit satisfactory support of all parts of the pipe unit when it is lifted.
 - D. Placing Pipe: Except where a concrete cradle or envelope is required, the pipe shall be placed in a crushed stone cradle. In trenches, no blocking or supporting of the piping by concrete, stones, bricks, wooden wedges, or method other than bedding the pipe on crushed stone will be permitted. Each length of pipe shall be shoved home against the pipe previously laid and held securely in position. Joints shall not be "pulled" or "cramped".
 - E. Jointing Pipe: After the pipe are aligned in the trench and are ready to be jointed, all joint surfaces shall be cleaned.
 - F. Alignment and Placement: All pipe shall be placed with extreme care as to grade and alignment. Each pipe shall be so placed as to form a close joint with the next adjoining pipe and bring the inverts continuously to the required grade.
 - 1. Stakeout of drain work and setting of line and grade is the responsibility of the Contractor.
 - G. Cleaning: Care shall be taken to prevent earth, water, and other materials from entering the pipeline. As soon as possible after the pipe and manholes are completed, the Contractor shall clean out the pipeline and manholes being careful to prevent soil, water, and debris from entering any existing Drain.
 - 1. Place plugs in end of uncompleted conduit at end of day or whenever work stops.
 - 2. Flush lines between manholes to remove collected debris.
 - H. Review of Completed Corrugated Polyethylene Pipe System: If the visual observation of the completed drain or any part thereof shows any pipe, manhole, or joint to be of defective work or material the defect shall be replaced or repaired as directed. The visual observation shall be conducted by the Owner's representative and any defects shall be as identified by such. The Contractor shall coordinate and provide site access for the Owner.
- 3.03 Modification to Existing Storm Drainage System
- A. Existing drainage structures shall be cored to receive new underdrain system where indicated on the Plan and as specified herein.
 - B. Catch basin and drain manhole frames and grates/covers shall be raised with brick and mortar to the proposed grades indicated on the Grading Plan.
 - C. Install new ADA compliant catch basin grates where indicated on the Drawings.
- 3.04 Area Drain and Infiltration Trench
- A. Install new area drain and infiltration trench in accordance with the Drawings.

3.05 Drainage System Cleaning and Acceptance

- A. The new drainage system shall be cleaned by flushing all pipes with clean water and removal of debris from catch basins and drywells, prior to final review and acceptance by the Owner.

END OF SECTION

SECTION 32 90 00 – PLANTING

PART 1 - GENERAL

1.01 General Requirements

- A. The conditions of the Contract, including Division 00 and Division 01, apply to the work under this Section.
- B. All reference to products by manufacturer, trade name or performance Specification bearing the connotation "or approved equal" shall be as determined by the Landscape Architect and the City.

1.02 Work Included

- A. The work of this Section consists of all planting work and related items as indicated on the Drawings and/or as specified herein and includes, but is not limited to the following:
 - 1. Topsoil (loam borrow)
 - 3. Soil Additives
 - 4. Spreading Loam and Fine Grading
 - 5. Planting
 - 6. Bark Mulch
 - 7. Planting mix for garden planters

1.03 References

- A. Examine all other Sections of the Specifications and all Drawings for the relationship of the work under this Section and the work of other trades. Cooperate with all other trades and all departments of the City of Somerville and coordinate all work under this Section therewith.
- B. The following related items are included under the Sections listed below:
 - 1. Section 02 41 00 – Site Preparation and Demolition
 - 2. Section 31 00 00 – Excavation, Filling and Grading
 - 3. Section 32 13 13 – Portland Cement Concrete
 - 4. Section 32 30 00 – Site Improvements

1.04 Submittals

- A. Prior to ordering the below listed materials, submit representative samples to Landscape Architect for selection and approval, in accordance with requirements of General Condition and special provisions as follows. Do not order material until Landscape Architect's approval has been obtained. Delivered materials shall closely match the approved samples.

1. Topsoil: The Contractor shall provide a one (1) cubic foot representative sample from each proposed source for testing and approval as directed by the Landscape Architect. The Contractor shall deliver samples to testing laboratory prior to any loaming and shall have the testing report sent directly to the Landscape Architect, and pay all costs.
 - a. Mechanical and chemical (pH soluble salts) analysis shall be by public extension service agency or a certified private testing laboratory in accordance with the current standards of the Association of Official Agricultural Chemists and approved by Landscape Architect.
 - b. Report shall be submitted at least one (1) month before any loaming is to be done. Soil tests shall be for Nitrate Nitrogen, Ammonium Nitrogen, Phosphorus, Potassium, Calcium, Aluminum, Soluble Salts and show acidity of the soil.
 - c. Tests shall document lead level.
 - d. Tests shall give recommendations for fertilizers and additives.
2. Fertilizer and lime product information and recommended application rates

1.05 Product Delivery and Handling

A. Preparation of Plants

1. All precautions customary in good trade practice shall be taken in preparing plants for moving, and workmanship that fails to meet the highest standards will be rejected. Plants shall be dug immediately before moving. All plants shall be dug to retain as many fibrous roots as possible. Balled and burlapped plants shall have a solid ball of earth. Loose, broken or manufactured balls will be rejected. Balled and burlapped plants shall be securely tied with stout rope to sturdy platforms equal in size to diameter of the upper half of the ball of earth.

B. Delivery

1. Plants shall be packed, transported and handled with utmost care to insure adequate protection against injury. Each shipment shall be certified by to be free from disease and infestation. Any inspection certificates required by law to this effect shall accompany each shipment invoice or order of stock and on arrival, the certificate shall be submitted to the Landscape Architect. All plants shall be adequately protected from drying out and immediately after inspection shall be held in moist soil. Balled and burlapped plants shall be set on the ground and the balls covered with soil. Until planted, all material shall be properly maintained to the satisfaction of the Landscape Architect.

C. Inspection

1. Inspection may be made before digging if the Landscape Architect directs, but no Plant Material shall be planted by the Contractor until inspected by the Landscape Architect at the site. All rejected material

shall be immediately removed from the site and replaced with acceptable material at no additional cost. Final inspection shall be made upon completion of the contract.

1.06 Definitions

- A. The following related items are included herein and shall mean:
 - 1. AOAC: Association of Official Agricultural Chemists
 - 2. ANLA: American Nursery and Landscape Association

1.07 Guarantee for Plantings

- A. Plants shall be guaranteed for a period of one (1) year after inspection and acceptance and shall be alive and in satisfactory growth at the end of the guarantee period.
- B. Each plant shall show at least 75% healthy growth and shall have the natural character of the plant of its species in accordance with American Nurserymen's Association Standards. Any plant that is unsatisfactory shall be removed from the site and replaced during the normal planting season.
- C. All replacements shall be plants of the same kind and size specified in the Plant List. The cost shall be borne by the Contractor.

1.08 Examination of Conditions

- A. All areas to be planted shall be inspected by the Contractor before starting work and any defects shall be reported to the Landscape Architect prior to beginning this work. The commencement of work by the Contractor shall indicate his acceptance of the areas to be planted and he shall assume full responsibility.

PART 2 - PRODUCTS

2.01 Topsoil (Loam Borrow)

- A. Loam shall be a "fine sandy loam" or a "sandy loam" determined by mechanical analysis and based on the USDA classification system. It shall be of uniform composition, without admixture of subsoil. It shall be free of stones greater than one inch, lumps, plants and their roots, debris and other extraneous matter over one inch in diameter or excess of smaller pieces of the same materials. It shall not contain toxic substances harmful to plant growth. It shall be obtained from naturally well drained areas which have never been stripped before and have a history of satisfactory vegetative growth. Loam shall contain not less than 6% nor more than 10% organic matter as determined by the loss on ignition of oven-dried samples. Test samples shall be oven-dried to a constant weight at a temperature of 230 F, plus or minus 9.
- B. Loam shall have an acidity range of pH 6.0 to pH 6.5.

- C. The amount of either sulfur or limestone required to adjust the planting loam to the proper pH range (above) shall be determined by the Landscape Architect on the basis of soil tests as specified herein.

2.02 Soil Additives

- A. Commercial fertilizer, peat or other additives shall be used to counteract soil deficiencies as recommended by the soil analysis and as directed by the Landscape Architect.
 - 1. Commercial fertilizer shall be a product complying with the State and United States Fertilizer Laws. Deliver to the site in the original unopened containers, which shall bear the manufacturer's Certificate of Compliance covering analysis, which shall be furnished to the Landscape Architect. At least 50% by weight of the Nitrogen content shall be derived from organic materials. Nitrogen shall be slow-release. Fertilizer shall contain the percentages of weight of ingredients as follows, or as recommended by the soil analysis when that is significantly different:

	<u>Nitrogen</u>	<u>Phosphorus</u>	<u>Potash</u>
For all planting and lawn	10%	10%	10%

- B. Ground dolomite limestone shall be an approved agricultural limestone containing not less than 85% of total calcium or magnesium carbonates. Limestone shall be ground to such fineness that 50% will pass through a 100 mesh sieve and 90% will pass through a 20 mesh sieve.
- C. Peat moss shall be composed of the partly decomposed stems and leaves of any or several species of sphagnum moss. It shall be free from wood, decomposed colloidal residue and other foreign matter. It shall have an acidity range of 3.5 pH to 5.5 pH as determined in accordance with the methods of testing of A.O.A.C., latest edition. Its water absorbing ability shall be a minimum of 1,100% by weight on an oven-dry basis.

2.03 Plant Materials

- A. The Contractor shall furnish and plant all plants shown on the Drawings, as specified, and in quantities as indicated in the drawings. No substitutions will be permitted. All plants shall be nursery grown.
- B. Plants shall be in accordance with the USA Standard for Nursery Stock of the American Nursery and Landscape Association, latest edition.
- C. All plants shall be typical of their species or variety and shall have a normal habit of growth and be legibly tagged with the proper name. Only plant stock grown within the hardiness Zones 3 through 6, as established by the United States Department of Agriculture, will be accepted. The Contractor's suppliers must certify in writing that the stock has actually been grown under Zone 6 or hardier conditions. Plants not so certified will not be accepted.
- D. Plants delivered by truck and plants requiring storage on site shall be properly wrapped and covered to prevent wind-drying and desiccation of branches, leaves or buds; plant balls shall be firmly bound, unbroken, reasonably moist to indicate watering prior to delivery and during storage and shall be free from fresh scars

and damage in handling. The Contractor shall reject such plants at time of delivery by the nursery/supplier unless such plants were selected by the Landscape Architect as indicated by tags and seals. No plant material from cold storage will be accepted.

2.04 Bark Mulch

- A. Mulch shall be pine bark aged a minimum of six (6) months. The mulch shall be dark brown in color, free of chunks and pieces of wood thicker than one-quarter inch (1/4"). Mulch must be free of stringy material over three inches (3") in length and shall not contain, in the judgment of the Landscape Architect, an excess of fine particles. Mulch shall be 98% organic matter with the pH range of 3.5 to 4.5. Moisture content of packaged material shall not exceed 35%. Submit sample for the Landscape Architect's approval.

2.05 Water

- A. The Contractor shall be responsible to furnish water to the site at no extra cost. All work injured or damaged due to the lack of water, or the use of too much water, shall be the Contractor's responsibility to correct. Water shall be free from impurities injurious to vegetation.

2.06 Slow Release Watering Bags

- A. Furnish and install 14 Gallon slow release watering bags at all trees at the time of planting. Water bags shall be Treegator or equal.

2.07 Tree Anchoring Materials

- A. Stakes: For supporting trees shall be of sound wood uniform in size, reasonably free of knots, and capable of standing in the ground at least two years. Stakes shall be 2"x 2," not less than eight feet in length and stained dark brown.
- B. Arbor Ties: Utilize Arbortie by Deeproot, or approved equal, when staking and guying plant material.

2.08 Wood Fiber Mulch

- A. Wood Fiber Mulch: shall be derived from natural, clean, whole woodchips. Fiber shall not be produced from recycled material such as sawdust, paper, or cardboard fiber. It shall be dyed green to contrast with the soil on which it is to be applied. Fiber shall have a water holding capacity of not less than 31.5 ounces of water per 3.5 ounces of fiber. The rate of application for wood fiber mulch shall be in accordance with manufacturer's guidelines.

2.09 Planting Soil Mix

- A. Planting soil mix shall be 1 part approved topsoil, 1 part approved compost and 1 part professional potting mix by Fafard or equal.

PART 3 - EXECUTION

3.01 Topsoil (Loam Borrow)

- A. Loosen subgrade to a friable, well-drained state, and spread topsoil throughout planting areas at the depth indicated on the Drawings.
- B. Incorporate soil amendments to the full-depth of topsoil in accordance with the independent testing laboratory's recommendations.
- C. Fine grade planting and lawn areas to the grades indicated on the drawings.
- D. All existing lawn areas disturbed by this project shall be loamed and seeded.

3.02 Planting

- A. Season for Planting
 - 1. Spring: Between April 1 – June 15. Fall: September 1 – November 15. Contractor shall request approval in writing from the Landscape Architect to install plant material outside of above stated dates.
- B. Location for all plants and outlines for planting areas shall be staked on the ground by the Contractor for approval by the Landscape Architect before any planting holes or plant beds are dug. In the event that rock or underground construction work or obstructions are encountered in any planting hole or bed excavation work to be done under this Contract, alternate locations may be selected by the Landscape Architect.
- C. The Contractor shall take special care to insure that the plant material is not planted too deeply by removing burlap and soil mounded around the base of the plant, at the top of the rootball, to expose the trunk flare. A measurement shall be taken from the trunk flare to the bottom of the root ball. This measurement shall be the depth of the planting hole.
- D. The plants shall be set at the center of the holes with trunk flare level to, or 1" – 2" above, finish grade. Once plant is set in planting pit, the Contractor shall remove the top 12" minimum, of wire basket and all visible rope and burlap.
- E. Hole shall be backfilled in layers of loam not more than nine inches and each layer watered sufficiently to settle before the next layer is put into place. Do not place any subsoil, sod or waste materials in planting hole.
- E. Each tree and shrub shall be pruned in accordance with National Arborist Association Standards to preserve the natural character of the plant. Remove all tags, labels and dead or broken branches
- G. All plants shall be flooded with water twice within the first 24 hours of the time of planting and all plants during the maintenance period shall be watered at least twice each week. At each watering the soil around each plant shall be thoroughly saturated. If sufficient moisture is retained in the soil, the required watering may be reduced.

- H. Staking of newly planted trees shall be performed directly after they are planted. Trees of 3-inch caliper or under, require staking only as needed to hold the tree plumb. All trees of 3-inch caliper and over shall be staked. Support ties shall allow tree to move and sway, but be able to return the trunk to a plumb and true position. Contractor shall adjust staking as frequently as needed during the maintenance period.
- I. Mulch material shall be placed in a 3 foot saucer around each tree to a depth of three inches (3") after settlement, not later than one (1) week after planting. No mulch shall be applied prior to the first watering of plant materials. Mulch shall be pulled back three inches (3") from trees.
- J. Absolutely no debris may be left on the site. Excavated material shall be removed as directed by the Landscape Architect. Repair any damage to site or structures to restore them to their original condition as directed by the Landscape Architect, at no cost to the Owner.

3.03 Bark Mulch

- A. Contractor shall install approved bark mulch material to the limits and depths shown on the Drawings and specified herein.
 - 1. Apply 1" layer of leaf compost topdressing prior to installation of bark mulch.

3.04 Maintenance of New Plants

- A. Maintenance shall begin immediately after each area is planted and shall continue for a minimum of ninety (90) days or until the final acceptance of planting.
- B. Maintenance shall consist of keeping the plants in a healthy growing condition and shall include watering, weeding, cultivating, remulching, tightening and repairing of guys, removal of dead material, resetting plants to proper grades or upright position and maintaining the planting saucer.
 - 1. All plants during the maintenance period shall be watered at least twice each week. At each watering the soil around each tree shall be thoroughly saturated. If sufficient moisture is retained in the soil, as determined by the Landscape Architect, the required watering may be reduced.
 - 2. Individual tree pits shall be kept free of weeds, and mulch shall be replaced as required to maintain a three inch (3") layer of mulch. Beds and individual pits shall be neat in appearance and maintained to the lines originally laid out.
 - 3. Plants that die during the maintenance period shall be replaced as directed by the Landscape Architect.
 - 4. Spraying for both insect pests and diseases shall be included during the maintenance period as required and as directed by the Landscape Architect. Pesticide application must be performed only by a licensed pesticide applicator and only after notification and approval from the City of Somerville.

5. A second application of fertilizer, as specified herein, shall be applied approximately 6 weeks after the plant material has been installed as directed by the Landscape Architect. Fertilizer shall be applied at the rate of 10 pounds per 1,000 square feet.
 6. Tree watering bags shall be installed immediately following planting and refilled daily during days that are above 75 degrees Fahrenheit.
- B. Protection: Planting areas and plants shall be protected against trespassing and damage of any kind. This shall include the provision and installation of approved temporary fencing if necessary. If any plants become damaged or injured by vandalism or neglect prior to provisional acceptance, the Contractor shall treat or replace them at his own expense.
- 3.05 Planting Soil Mix for Raised Garden Planters
- A. Thouroughly mix the planting soil mixture and place in raised garden planters. Firm soil to within 2 inches of the top of the planter.
- 3.06 Cleaning and Protection
- A. During operations, keep pavements clean and work area in an orderly condition. Protect lawns from damage by other contractors and trades and trespassers. After completion of the work, the Contractor shall remove all debris, materials, rubbish, excess dirt, etc. from the site and dispose of them in a legal manner. The premises shall be left clean and presentable to the satisfaction of the Architect.

END OF SECTION

PART 4: CONSTRUCTION DOCUMENT DRAWING LIST

(SEE SEPARATE DOCUMENTS AT

www.somervillema.gov/bidpostings - “Drawings - IFB 17-57 Winter Hill School Park Phase 2 Bid Set”)