

MILLBURY PUBLIC SCHOOLS

INVITATION FOR BIDS



WINDLE FIELD TENNIS-PICKLEBALL COURTS PROJECT

BID #0186-2405

MILLBURY PUBLIC SCHOOLS

INVITATION FOR BIDS

WINDLE FIELD TENNIS-PICKLEBALL COURTS PROJECT

The Millbury Public Schools is accepting bids for Windle Field Tennis-Pickleball Courts Project at 33 Canal Street, Millbury, MA. Copies of the bid documents may be obtained from the Superintendent's Office, c/o Asst. Supt. Finance/Operations, 12 Martin Street, Millbury, MA 01527 during regular business hours of Monday through Friday 8:00 A.M. to 3:00 P.M. All proposals are due by Tuesday, March 26, 2024, at 2:00PM in the Superintendent's Office, 12 Martin Street, Millbury, MA. A pre-bid conference is scheduled for Friday, March 8, 2024, at 10:00 a.m. at Windle Field, 33 Canal Street, Millbury, MA.

Telephone number 508-865-9501.

It is the intent of this solicitation to describe the construction and installation of three (3) outdoor tennis courts and four (4) outdoor pickleball courts at Windle Field, 33 Canal Street, Millbury, MA to allow for community recreational use, high school athletic tennis team use and other student activities. The intention is for all of these athletic courts to be constructed at approximately the same time under one contract with one vendor. The work involves construction, as per Cooney and Associates description and blueprints.

Work under this contract requires a contractor to furnish all labor, materials, tools, equipment and supervision necessary to accomplish the work described herein, accordance with all specifications and requirements.

All bids are subject to the provisions of M.G.L. Chapter 149. Wages are subject to minimum wage rates determined by the Massachusetts Dept. of Labor and Industries pursuant to M.G.L. Chapter 149, Section 26 and 27.

II. SCOPE OF SERVICES

The Contractor agrees to perform the following services to construct and install three (3) outdoor tennis courts and four (4) outdoor pickleball courts at Windle Field, 33 Canal Street, Millbury, MA to allow for community recreational use, high school athletic tennis team use and other student activities, as per the enclosed specifications and blueprints. All prospective bidders are required to visit the site to inspect the work. The project shall be completed within one hundred and twenty (120) calendar days from the execution of a signed contract. A pre-bid conference is scheduled for Friday, March 8, 2024, at 10:00 a.m. at Windle Field, 33 Canal Street, Millbury, MA.

GENERAL SPECIFICATIONS

- All work shall be completed in a manner that will minimize disruption to school related activities and personnel.
- Secure work area on a daily basis.
- Contractor responsible for all Federal, State and Local permits.
- Local building permit fees should be waived by the Town of Millbury.
- All work to comply with Massachusetts State Building Code.
- All work to comply with industry standards.
- Clean up and remove all debris from site as needed daily and at the end of the project.
- Prevailing wages apply, rate sheet included.

WORK SPECIFICATIONS

- All work is at the Windle Field athletic fields at 33 Canal Street, Millbury, MA.
- Remove and dispose of all waste.
- Remove all debris from the work site.
- Work shall be completed within one hundred and twenty (120) calendar days from the execution of a signed contract.

It is the intent of this solicitation to describe the construction and installation of three (3) outdoor tennis courts and four (4) outdoor pickleball courts at Windle Field, 33 Canal Street, Millbury, MA to allow for community recreational use, high school athletic tennis team use and other student activities. The intention is for all of these athletic courts to be constructed at approximately the same time under one contract with one vendor. The work involves construction, as per Cooney and Associates description and blueprints.

All technical specifications shall be directed to Darrell Bird of Carolyn Cooney and Associates, 508-478-8426. Any potential addendum to the bid specifications will be issued by the Millbury Public Schools and shall be acknowledged by the vendor in the bid submittal. The project shall be completed within one hundred and twenty (120) calendar days from the execution of a signed contract. The work under this contract is to include the furnishing of all labor and materials necessary to complete this process. All contracts are awarded with the understanding that the contractor has acquainted himself/herself with all the requirements of the contracts and specifications, the conditions of the site, and has obtained all the information necessary for the completion of this project. The Contractor shall not at any time, after the submission of his bid, make any claim whatsoever based on insufficient data or a misunderstanding of the requirements, nature, conditions, or extent of the work under the contract.

III. SPECIFICATIONS

A. Description

Work shall be performed in accordance with approved construction methods as specified in the Massachusetts Building Codes.

B. Insurance Requirements

The contractor shall evidence the ability to insure the Millbury Public Schools against general, automobile, and workers' compensation liabilities. Contractors must meet the minimum insurance limits outlined below. The contractor shall provide proof of insurance naming the Millbury Public Schools as an additional insured for the project.

General Liability	\$1,000,000 per occurrence \$3,000,000 aggregate
Automobile Liability	\$1,000,000 Combined Single Limit (C.S.L.)
Workers' Compensation	Per statutory limits
Excess Liability Umbrella	\$1,000,000 C.S.L.

C. Contractor's Indemnification

Contractor shall, to the maximum extent permitted by law, indemnify and save harmless the Millbury Public Schools, its officers, agents and employees from and against any and all damages, liabilities, action, suits, proceedings, claims, demands, losses, costs and expenses (including reasonable attorney's fees) that may arise out of or in connection with the work being performed or to be performed by the Contractor, his employees, agents, subcontractors or materialmen. The existence of insurance shall in no way limit the scope of this indemnification. The contractor further agrees to reimburse the Millbury Public Schools for damage to its property cause by the Contractor, his employees agents,

subcontractors or materialmen, including damages caused by his, its or their use of faulty, defective or unsuitable material or equipment, unless the damage is caused by the Millbury Public Schools's gross negligence or willful misconduct.

D. Contractor's Licenses/Certification

Contractor shall possess all necessary licenses and certifications to complete the work.

E. Payment Bond

A payment bond in the amount of fifty percent (50%) of the total cost of the project, issued by a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and satisfactory to the awarding authority, must be furnished within ten (10) days of notice of award of contract.

F. Bid Deposit

A bid deposit in the amount of five percent (5%) of the total cost of the project, issued by a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and satisfactory to the awarding authority or a bank certified check in the same amount shall be furnished with the bid response.

VI. BID FORMS AND ATTACHMENTS

Bid Price Form

Certificate of Non-Collusion

OSHA-10 Certification

Tax Compliance Certificate

Certificate of Authority

Prevailing Wage Rates

5% Bid Deposit

SAMPLE CONTRACT

MILLBURY PUBLIC SCHOOLS

Millbury Public Schools

Bid Number: 0186-2405

WINDLE FIELD TENNIS-PICKLEBALL COURTS PROJECT

This contract is executed this _____ day of _____ by and between:

Contractor Name

Hereinafter referred to as the ‘Contractor’ and the Millbury Public Schools, c/o Millbury Public Schools, a municipal corporation duly organized under the laws of the Commonwealth of Massachusetts, with a principal place of business at 12 Martin Street, Millbury, Ma 01527, hereinafter referred to as the “School.”

The School and the Contractor agree to the terms and conditions contained in this Contract. The Contractor agrees to perform the following services at the price of \$ _____ as indicated in its proposal dated _____, bid no. 0186-2405.

Windle Field Tennis-Pickleball Courts Project

CONTRACTOR SERVICES, LICENSES AND PERMITS

The Contractor shall furnish all labor, materials and equipment to complete Windle Field Tennis-Pickleball Courts Project as prescribed in the Scope of Services attached to this Contract. The Contractor shall conform to applicable federal, state, and local laws, regulations and building codes. The Contractor shall obtain municipal building permits required to complete the project.

PREVAILING WAGES

This contract is subject to the Commonwealth’s Prevailing Wage Law. Attached is the Windle Field Tennis-Pickleball Courts Project Bid 1-24

Massachusetts Division of Occupational Safety Prevailing Wage Rate schedule covering this project.

PAYMENT TERMS

The Contractor shall provide the services for the price submitted on their proposal dated _____, unless otherwise mutually agreed in writing. The School shall not loan or advance any funds to the Contractor for any purposes.

INSURANCE REQUIREMENTS

The Contractor shall secure and maintain for the duration of this project and at no cost to the School, with respect to the services related to this Contract, insurance coverages as stipulated in Section III.B. of the Bid Specifications. The Contractor shall be required to provide proof of insurance naming the Millbury Public Schools as an additional insured for the project. The Certificate Holder shall be identified as the “Superintendent”, 12 Martin Street, Millbury, MA 01527.

PAYMENT BOND

A payment bond in the amount of fifty percent (50%) of the total cost of the project, issued by a surety company qualified to do business under the laws of the Commonwealth of Massachusetts and satisfactory to the awarding authority, must be furnished within ten (10) days of notice of award of contract.

CONTRACTOR'S INDEMNIFICATION

The Contractor shall, to the maximum extent permitted by law, indemnify and save harmless the Millbury Public Schools, its officers, agents and employees from and against any and all damages, liabilities, actions, suits, proceedings, claims, demands, losses, costs and expenses (including reasonable attorney's fees) that arise out of or in connection with the work being performed or to be performed by the Contractor, his employees, agents, subcontractors or materialmen. The existence of insurance shall in no way limit the scope of this indemnification. The Contractor further agrees to reimburse the Millbury Public Schools for damage to its property caused by the Contractor, his employees, agents, subcontractors or materialmen, including damages caused by his, its or their use of faulty, defective or unsuitable material or equipment, unless the damage is caused by the Millbury Public Schools's gross negligence or willful misconduct.

TERMINATION

If the work to be done under this Contract shall be abandoned, or if this Contract or any part thereof shall be assigned or transferred, without the previous written consent of the School, or if the Contract or any claim hereunder shall be assigned by the Contractor otherwise than as herein specified, or if at any time the School determines that the conditions herein specified as to the rate of progress are not fulfilled, or that the work or any part thereof, is unnecessarily or unreasonably delayed, or that the Contractor has violated any of the provisions of this Contract, the School may terminate this Contract and/or notify the Contractor or discontinue such work or such part thereof as the School may designate, and the School may thereupon by agreement or otherwise, as it may determine, complete the work, or any part thereof; and for such completion the School for itself or for its Contractor may take possession of and use or cause to be used in the completion of the work thereof any of such materials, apparatus, machinery, implements, and tools of every description as may be found upon said work. Termination pursuant to this paragraph shall not entitle the Contractor to any claim for damages on account thereof, nor shall it relieve the Contractor of any liability under this Contract.

This contract shall not be altered in any way without the consent of all parties to this contract. All alterations to this contract must be in writing and authorized as such by the Superintendent for the Contractor.

This contract shall be deemed to be a Massachusetts contract and its interpretation and construction shall be governed by the laws of Massachusetts and the Charter and Bylaws of the Millbury Public Schools.

This contract shall become effective when signed by both the Contractor and the Superintendent.

IN WITNESS WHEREOF, this Agreement has been executed, in duplicate, on the date first above written for the Millbury Public Schools by Gregory B. Myers, Superintendent, and for the said Contractor by its owner, or duly authorized officer or agent. This instrument shall take effect as a sealed instrument.

MILLBURY PUBLIC SCHOOLS:

CONTRACTOR:

Gregory B. Myers
Superintendent

Vendor Name.

Approved as to Appropriation:

Authorized Signature

Jennifer Barrett
Town Finance Director

Print Name and Title

Contract Price: \$ _____

Internal Use:

MPS BudgetSense Acct. No.:

Town Hall Acct. No.:

Windle Field Tennis-Pickleball Courts Project Bid 1-24

CERTIFICATE OF NON-COLLUSION

The undersigned certifies under penalty 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 of individual submitting bid or proposal

Name of Business

CHAPTER 306 OF THE ACTS OF 2004

Chapter 30: Section 39S. Contracts for construction; requirements

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 in 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 to work and who shall furnish documentation of the successful completion of said course with the first certified payroll report for each employee.

Any employee found on a worksite subject to this section without documentation of successful completion of a course in safety and health approved by the United States Occupational Safety and Health Administration that is at least 10 hours in duration shall be subject to immediate removal.

Date: _____

Company Name: _____

Company Address: _____

Authorized Signature: _____

Print Name & Title: _____

TAX COMPLIANCE CERTIFICATION

Pursuant to M.G.L. c 62C, Sec. 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.

Signature of person submitting bid or proposal

Name of Business

Date

CERTIFICATE OF AUTHORITY

At a duly authorized meeting of the Board of Directors of the (name of corporation) _____, held on (date) _____ at which all the Directors were present or waived notice, it was voted that (officer and title) _____, of the company be and is hereby authorized to execute contracts and bonds in the name and on behalf of said company, and affix its Corporate Seal thereto, and such execution of any contract of obligation in this company's name on its behalf of such (officer) _____ under seal of the company, shall be valid and binding upon this company.

A TRUE COPY,

Attest: _____

Place of Business: _____

I hereby certify that I am the (title) _____ of the (name of corporation) _____ and that (name of officer) _____ is the duly elected (title) _____ of said company, and the above vote has not been amended or rescinded and remains in full force and effect as of the date of this contract.

Signature: _____

Date: _____

Name/Title: _____

(Corporate Seal)

COMMONWEALTH OF MASSACHUSETTS

Windle Field Tennis-Pickleball Courts Project Bid 1-24

Worcester County, S. S.

On this _____ day of _____, of the year
_____, then personally appeared the above-named
_____, and acknowledged the foregoing instrument to be
his/her free act and deed before me.

Notary Public

My commission expires: _____

Bid Price Form
Millbury Public Schools
Windle Field Tennis-Pickleball Courts Project
Bid #0186-2405

For Supplies and Labor for the construction and installation of three (3) outdoor tennis courts and four (4) outdoor pickleball courts at Windle Field, 33 Canal Street, Millbury, MA to allow for community recreational use, high school athletic tennis team use and other student activities, as per the Proposed Scope of Services and accompanying Carolyn Cooney and Associates, Inc. technical specifications and blueprints as specified.

Base Bid Price: _____

Add Alternate No. 1: _____

Contractor Signature: _____

Print Name: _____

Company Name: _____

Company Address: _____

Date: _____

List any addendum acknowledgements included in bid price:

STATE OF MASSACHUSETTS
PREVAILING WAGE RATES



MAURA HEALEY
Governor

KIM DRISCOLL
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**

LAUREN JONES
Secretary

MICHAEL FLANAGAN
Director

Awarding Authority: Millbury Public Schools
Contract Number: 0186-2405 **City/Town:** MILLBURY
Description of Work: Install three (3) tennis courts and four (4) pickleball courts at Windle Field, 33 Canal Street, Millbury, MA.
Job Location: 33 Canal Street

Information about Prevailing Wage Schedules for Awarding Authorities and Contractors

- 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 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, the 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. The annual update requirement is not applicable to 27F "rental of equipment" contracts. **The updated wage schedule must be provided to all contractors, including general and sub-contractors, working on the construction project.**
- 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 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 a sub-contractor.
- Apprentices working on the project are required to be registered with the Massachusetts Division of Apprentice Standards (DAS). Apprentices must keep their apprentice identification card on their persons 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 DAS regardless of whether they are registered with another federal, state, local, or private agency must be paid the journeyworker's rate.**
- Every contractor or subcontractor working on the construction project must 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. For a sample payroll reporting form go to <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.
- Contractors must obtain the wage schedules from awarding authorities. 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 criminal penalties.
- Employees not receiving the prevailing wage rate set forth on the wage schedule may file a complaint with the Fair Labor Division of the office of the Attorney General at (617) 727-3465.

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Construction						
(2 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$38.95	\$15.07	\$18.67	\$0.00	\$72.69
	06/01/2024	\$39.95	\$15.07	\$18.67	\$0.00	\$73.69
	12/01/2024	\$39.95	\$15.07	\$20.17	\$0.00	\$75.19
	01/01/2025	\$39.95	\$15.57	\$20.17	\$0.00	\$75.69
	06/01/2025	\$40.95	\$15.57	\$20.17	\$0.00	\$76.69
	12/01/2025	\$40.95	\$15.57	\$21.78	\$0.00	\$78.30
	01/01/2026	\$40.95	\$16.17	\$21.78	\$0.00	\$78.90
	06/01/2026	\$41.95	\$16.17	\$21.78	\$0.00	\$79.90
	12/01/2026	\$41.95	\$16.17	\$23.52	\$0.00	\$81.64
	01/01/2027	\$41.95	\$16.77	\$23.52	\$0.00	\$82.24
(3 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.02	\$15.07	\$18.67	\$0.00	\$72.76
	06/01/2024	\$40.02	\$15.07	\$18.67	\$0.00	\$73.76
	12/01/2024	\$40.02	\$15.07	\$20.17	\$0.00	\$75.26
	01/01/2025	\$40.02	\$15.57	\$20.17	\$0.00	\$75.76
	06/01/2025	\$41.02	\$15.57	\$20.17	\$0.00	\$76.76
	12/01/2025	\$41.02	\$15.57	\$21.78	\$0.00	\$78.37
	01/01/2026	\$41.02	\$16.17	\$21.78	\$0.00	\$78.97
	06/01/2026	\$42.02	\$16.17	\$21.78	\$0.00	\$79.97
	12/01/2026	\$42.02	\$16.17	\$23.52	\$0.00	\$81.71
	01/01/2027	\$42.02	\$16.77	\$23.52	\$0.00	\$82.31
(4 & 5 AXLE) DRIVER - EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.14	\$15.07	\$18.67	\$0.00	\$72.88
	06/01/2024	\$40.14	\$15.07	\$18.67	\$0.00	\$73.88
	12/01/2024	\$40.14	\$15.07	\$20.17	\$0.00	\$75.38
	01/01/2025	\$40.14	\$15.57	\$20.17	\$0.00	\$75.88
	06/01/2025	\$41.14	\$15.57	\$20.17	\$0.00	\$76.88
	12/01/2025	\$41.14	\$15.57	\$21.78	\$0.00	\$78.49
	01/01/2026	\$41.14	\$16.17	\$21.78	\$0.00	\$79.09
	06/01/2026	\$42.14	\$16.17	\$21.78	\$0.00	\$80.09
	12/01/2026	\$42.14	\$16.17	\$23.52	\$0.00	\$81.83
	01/01/2027	\$42.14	\$16.77	\$23.52	\$0.00	\$82.43
ADS/SUBMERSIBLE PILOT <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
AIR TRACK OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
For apprentice rates see "Apprentice- LABORER"						
AIR TRACK OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
	06/01/2024	\$39.94	\$9.65	\$17.14	\$0.00	\$66.73
	12/01/2024	\$41.27	\$9.65	\$17.14	\$0.00	\$68.06
	06/01/2025	\$42.66	\$9.65	\$17.14	\$0.00	\$69.45
	12/01/2025	\$44.04	\$9.65	\$17.14	\$0.00	\$70.83
	06/01/2026	\$45.48	\$9.65	\$17.14	\$0.00	\$72.27
	12/01/2026	\$46.92	\$9.65	\$17.14	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ASBESTOS WORKER (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (WORCESTER)</i>	12/01/2023	\$40.80	\$14.50	\$11.05	\$0.00	\$66.35
	06/01/2024	\$41.80	\$14.50	\$11.05	\$0.00	\$67.35
	12/01/2024	\$42.80	\$14.50	\$11.05	\$0.00	\$68.35
	06/01/2025	\$43.80	\$14.50	\$11.05	\$0.00	\$69.35
	12/01/2025	\$44.80	\$14.50	\$11.05	\$0.00	\$70.35
ASPHALT RAKER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
ASPHALT RAKER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
ASPHALT/CONCRETE/CRUSHER PLANT-ON SITE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BACKHOE/FRONT-END LOADER <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
BARCO-TYPE JUMPING TAMPER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
For apprentice rates see "Apprentice- LABORER"						
BLOCK PAVER, RAMMER / CURB SETTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
	06/01/2024	\$39.94	\$9.65	\$17.14	\$0.00	\$66.73
	12/01/2024	\$41.27	\$9.65	\$17.14	\$0.00	\$68.06
	06/01/2025	\$42.66	\$9.65	\$17.14	\$0.00	\$69.45
	12/01/2025	\$44.04	\$9.65	\$17.14	\$0.00	\$70.83
	06/01/2026	\$45.48	\$9.65	\$17.14	\$0.00	\$72.27
	12/01/2026	\$46.92	\$9.65	\$17.14	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
BOILER MAKER <i>BOILERMAKERS LOCAL 29</i>	01/01/2024	\$48.12	\$7.07	\$20.60	\$0.00	\$75.79

Classification		Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Apprentice - BOILERMAKER - Local 29							
Effective Date - 01/01/2024							
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate	
1	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57	
2	65	\$31.28	\$7.07	\$13.22	\$0.00	\$51.57	
3	70	\$33.68	\$7.07	\$14.23	\$0.00	\$54.98	
4	75	\$36.09	\$7.07	\$15.24	\$0.00	\$58.40	
5	80	\$38.50	\$7.07	\$16.25	\$0.00	\$61.82	
6	85	\$40.90	\$7.07	\$17.28	\$0.00	\$65.25	
7	90	\$43.31	\$7.07	\$18.28	\$0.00	\$68.66	
8	95	\$45.71	\$7.07	\$19.32	\$0.00	\$72.10	
Notes:							
Apprentice to Journeyworker Ratio:1:4							
BRICK/STONE/ARTIFICIAL MASONRY (INCL. MASONRY WATERPROOFING)		02/01/2024	\$60.26	\$11.49	\$22.90	\$0.00	\$94.65
BRICKLAYERS LOCAL 3 (WORCESTER)		08/01/2024	\$62.36	\$11.49	\$22.90	\$0.00	\$96.75
		02/01/2025	\$63.66	\$11.49	\$22.90	\$0.00	\$98.05
		08/01/2025	\$65.81	\$11.49	\$22.90	\$0.00	\$100.20
		02/01/2026	\$67.16	\$11.49	\$22.90	\$0.00	\$101.55
		08/01/2026	\$69.36	\$11.49	\$22.90	\$0.00	\$103.75
		02/01/2027	\$70.76	\$11.49	\$22.90	\$0.00	\$105.15

Apprentice - BRICK/PLASTER/CEMENT MASON - Local 3 Worcester

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.13	\$11.49	\$22.90	\$0.00	\$64.52
2	60	\$36.16	\$11.49	\$22.90	\$0.00	\$70.55
3	70	\$42.18	\$11.49	\$22.90	\$0.00	\$76.57
4	80	\$48.21	\$11.49	\$22.90	\$0.00	\$82.60
5	90	\$54.23	\$11.49	\$22.90	\$0.00	\$88.62

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.18	\$11.49	\$22.90	\$0.00	\$65.57
2	60	\$37.42	\$11.49	\$22.90	\$0.00	\$71.81
3	70	\$43.65	\$11.49	\$22.90	\$0.00	\$78.04
4	80	\$49.89	\$11.49	\$22.90	\$0.00	\$84.28
5	90	\$56.12	\$11.49	\$22.90	\$0.00	\$90.51

Notes:

Apprentice to Journeyworker Ratio:1:5

BULLDOZER/GRADER/SCRAPER	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
OPERATING ENGINEERS LOCAL 4	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

CAISSON & UNDERPINNING BOTTOM MAN	12/01/2023	\$45.48	\$9.65	\$18.22	\$0.00	\$73.35
LABORERS - FOUNDATION AND MARINE	06/01/2024	\$46.96	\$9.65	\$18.22	\$0.00	\$74.83
	12/01/2024	\$48.43	\$9.65	\$18.22	\$0.00	\$76.30
	06/01/2025	\$49.93	\$9.65	\$18.22	\$0.00	\$77.80
	12/01/2025	\$51.43	\$9.65	\$18.22	\$0.00	\$79.30
	06/01/2026	\$52.98	\$9.65	\$18.22	\$0.00	\$80.85
	12/01/2026	\$54.48	\$9.65	\$18.22	\$0.00	\$82.35

For apprentice rates see "Apprentice- LABORER"

CAISSON & UNDERPINNING LABORER	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
LABORERS - FOUNDATION AND MARINE	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CAISSON & UNDERPINNING TOP MAN <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
CARBIDE CORE DRILL OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
CARPENTER <i>CARPENTERS -ZONE 2 (Eastern Massachusetts)</i>	09/01/2023	\$45.87	\$9.83	\$19.97	\$0.00	\$75.67
	03/01/2024	\$47.12	\$9.83	\$19.97	\$0.00	\$76.92
	09/01/2024	\$48.37	\$9.83	\$19.97	\$0.00	\$78.17
	03/01/2025	\$49.62	\$9.83	\$19.97	\$0.00	\$79.42
	09/01/2025	\$50.87	\$9.83	\$19.97	\$0.00	\$80.67
	03/01/2026	\$52.12	\$9.83	\$19.97	\$0.00	\$81.92
	09/01/2026	\$53.37	\$9.83	\$19.97	\$0.00	\$83.17
	03/01/2027	\$54.62	\$9.83	\$19.97	\$0.00	\$84.42

Apprentice - CARPENTER - Zone 2 Eastern MA

Effective Date - 09/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.94	\$9.83	\$1.73	\$0.00	\$34.50
2	60	\$27.52	\$9.83	\$1.73	\$0.00	\$39.08
3	70	\$32.11	\$9.83	\$14.78	\$0.00	\$56.72
4	75	\$34.40	\$9.83	\$14.78	\$0.00	\$59.01
5	80	\$36.70	\$9.83	\$16.51	\$0.00	\$63.04
6	80	\$36.70	\$9.83	\$16.51	\$0.00	\$63.04
7	90	\$41.28	\$9.83	\$18.24	\$0.00	\$69.35
8	90	\$41.28	\$9.83	\$18.24	\$0.00	\$69.35

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.56	\$9.83	\$1.73	\$0.00	\$35.12
2	60	\$28.27	\$9.83	\$1.73	\$0.00	\$39.83
3	70	\$32.98	\$9.83	\$14.78	\$0.00	\$57.59
4	75	\$35.34	\$9.83	\$14.78	\$0.00	\$59.95
5	80	\$37.70	\$9.83	\$16.51	\$0.00	\$64.04
6	80	\$37.70	\$9.83	\$16.51	\$0.00	\$64.04
7	90	\$42.41	\$9.83	\$18.24	\$0.00	\$70.48
8	90	\$42.41	\$9.83	\$18.24	\$0.00	\$70.48

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$32.20/ 3&4 \$38.76/ 5&6 \$58.45/ 7&8 \$64.77

Apprentice to Journeyworker Ratio:1:5

CARPENTER WOOD FRAME	10/01/2023	\$25.55	\$7.02	\$4.80	\$0.00	\$37.37
CARPENTERS-ZONE 3 (Wood Frame)	10/01/2024	\$26.65	\$7.02	\$4.80	\$0.00	\$38.47
	10/01/2025	\$27.75	\$7.02	\$4.80	\$0.00	\$39.57
	10/01/2026	\$28.85	\$7.02	\$4.80	\$0.00	\$40.67

All Aspects of New Wood Frame Work

Apprentice - CARPENTER (Wood Frame) - Zone 3

Effective Date - 10/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$15.33	\$7.02	\$0.00	\$0.00	\$22.35
2	60	\$15.33	\$7.02	\$0.00	\$0.00	\$22.35
3	65	\$16.61	\$7.02	\$1.00	\$0.00	\$24.63
4	70	\$17.89	\$7.02	\$1.00	\$0.00	\$25.91
5	75	\$19.16	\$7.02	\$4.80	\$0.00	\$30.98
6	80	\$20.44	\$7.02	\$4.80	\$0.00	\$32.26
7	85	\$21.72	\$7.02	\$4.80	\$0.00	\$33.54
8	90	\$23.00	\$7.02	\$4.80	\$0.00	\$34.82

Effective Date - 10/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$15.99	\$7.02	\$0.00	\$0.00	\$23.01
2	60	\$15.99	\$7.02	\$0.00	\$0.00	\$23.01
3	65	\$17.32	\$7.02	\$1.00	\$0.00	\$25.34
4	70	\$18.66	\$7.02	\$1.00	\$0.00	\$26.68
5	75	\$19.99	\$7.02	\$4.80	\$0.00	\$31.81
6	80	\$21.32	\$7.02	\$4.80	\$0.00	\$33.14
7	85	\$22.65	\$7.02	\$4.80	\$0.00	\$34.47
8	90	\$23.99	\$7.02	\$4.80	\$0.00	\$35.81

Notes:

% Indentured After 10/1/17; 45/45/55/55/70/70/80/80
Step 1&2 \$18.52/ 3&4 \$21.07/ 5&6 \$28.70/ 7&8 \$31.26

Apprentice to Journeyworker Ratio:1:5

CEMENT MASONRY/PLASTERING	01/01/2024	\$49.33	\$13.00	\$23.57	\$1.30	\$87.20
BRICKLAYERS LOCAL 3 (WORCESTER)						

Apprentice - CEMENT MASONRY/PLASTERING - Worcester

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.67	\$13.00	\$15.93	\$0.00	\$53.60
2	60	\$29.60	\$13.00	\$18.57	\$1.30	\$62.47
3	65	\$32.06	\$13.00	\$19.57	\$1.30	\$65.93
4	70	\$34.53	\$13.00	\$20.57	\$1.30	\$69.40
5	75	\$37.00	\$13.00	\$21.57	\$1.30	\$72.87
6	80	\$39.46	\$13.00	\$22.57	\$1.30	\$76.33
7	90	\$44.40	\$13.00	\$23.57	\$1.30	\$82.27

Notes:

Steps 3,4 are 500 hrs. All other steps are 1,000 hrs.

Apprentice to Journeyworker Ratio:1:3

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
CHAIN SAW OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
CLAM SHELLS/SLURRY BUCKETS/HEADING MACHINES <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$56.13	\$15.00	\$16.40	\$0.00	\$87.53
	06/01/2024	\$57.45	\$15.00	\$16.40	\$0.00	\$88.85
	12/01/2024	\$58.93	\$15.00	\$16.40	\$0.00	\$90.33
	06/01/2025	\$60.26	\$15.00	\$16.40	\$0.00	\$91.66
	12/01/2025	\$61.73	\$15.00	\$16.40	\$0.00	\$93.13
	06/01/2026	\$63.06	\$15.00	\$16.40	\$0.00	\$94.46
	12/01/2026	\$64.54	\$15.00	\$16.40	\$0.00	\$95.94
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
COMPRESSOR OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DELEADER (BRIDGE) <i>PAINTERS LOCAL 35 - ZONE 2</i>	01/01/2024	\$56.06	\$9.95	\$23.95	\$0.00	\$89.96
	07/01/2024	\$57.26	\$9.95	\$23.95	\$0.00	\$91.16
	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$9.95	\$0.00	\$0.00	\$37.98
2	55	\$30.83	\$9.95	\$6.66	\$0.00	\$47.44
3	60	\$33.64	\$9.95	\$7.26	\$0.00	\$50.85
4	65	\$36.44	\$9.95	\$7.87	\$0.00	\$54.26
5	70	\$39.24	\$9.95	\$20.32	\$0.00	\$69.51
6	75	\$42.05	\$9.95	\$20.93	\$0.00	\$72.93
7	80	\$44.85	\$9.95	\$21.53	\$0.00	\$76.33
8	90	\$50.45	\$9.95	\$22.74	\$0.00	\$83.14

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$9.95	\$0.00	\$0.00	\$38.58
2	55	\$31.49	\$9.95	\$6.66	\$0.00	\$48.10
3	60	\$34.36	\$9.95	\$7.26	\$0.00	\$51.57
4	65	\$37.22	\$9.95	\$7.87	\$0.00	\$55.04
5	70	\$40.08	\$9.95	\$20.32	\$0.00	\$70.35
6	75	\$42.95	\$9.95	\$20.93	\$0.00	\$73.83
7	80	\$45.81	\$9.95	\$21.53	\$0.00	\$77.29
8	90	\$51.53	\$9.95	\$22.74	\$0.00	\$84.22

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

DEMO: ADZEMAN LABORERS - ZONE 2	12/01/2023	\$44.48	\$9.65	\$18.07	\$0.00	\$72.20
For apprentice rates see "Apprentice- LABORER"						
DEMO: BACKHOE/LOADER/HAMMER OPERATOR LABORERS - ZONE 2	12/01/2023	\$45.48	\$9.65	\$18.07	\$0.00	\$73.20
For apprentice rates see "Apprentice- LABORER"						
DEMO: BURNERS LABORERS - ZONE 2	12/01/2023	\$45.23	\$9.65	\$18.07	\$0.00	\$72.95
For apprentice rates see "Apprentice- LABORER"						
DEMO: CONCRETE CUTTER/SAWYER LABORERS - ZONE 2	12/01/2023	\$45.48	\$9.65	\$18.07	\$0.00	\$73.20
For apprentice rates see "Apprentice- LABORER"						
DEMO: JACKHAMMER OPERATOR LABORERS - ZONE 2	12/01/2023	\$45.23	\$9.65	\$18.07	\$0.00	\$72.95
For apprentice rates see "Apprentice- LABORER"						
DEMO: WRECKING LABORER LABORERS - ZONE 2	12/01/2023	\$44.48	\$9.65	\$18.07	\$0.00	\$72.20
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
DIRECTIONAL DRILL MACHINE OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
DIVER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$68.70	\$9.40	\$23.12	\$0.00	\$101.22
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$49.07	\$9.40	\$23.12	\$0.00	\$81.59
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER TENDER (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$73.60	\$9.40	\$23.12	\$0.00	\$106.12
For apprentice rates see "Apprentice- PILE DRIVER"						
DIVER/SLURRY (EFFLUENT) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$103.05	\$9.40	\$23.12	\$0.00	\$135.57
For apprentice rates see "Apprentice- PILE DRIVER"						
DRAWBRIDGE OPERATOR (Construction) <i>DRAWBRIDGE - SEIU LOCAL 888</i>	07/01/2020	\$26.77	\$6.67	\$3.93	\$0.16	\$37.53
ELECTRICIAN <i>ELECTRICIANS LOCAL 96</i>	09/03/2023	\$45.99	\$13.00	\$18.84	\$0.00	\$77.83
	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34

Apprentice - *ELECTRICIAN - Local 96*

Effective Date - 09/03/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.40	\$13.00	\$0.55	\$0.00	\$31.95
2	45	\$20.70	\$13.00	\$0.62	\$0.00	\$34.32
3	48	\$22.08	\$13.00	\$15.49	\$0.00	\$50.57
4	55	\$25.29	\$13.00	\$15.94	\$0.00	\$54.23
5	65	\$29.89	\$13.00	\$16.59	\$0.00	\$59.48
6	80	\$36.79	\$13.00	\$17.55	\$0.00	\$67.34

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$18.82	\$13.99	\$0.56	\$0.00	\$33.37
2	45	\$21.17	\$13.99	\$0.64	\$0.00	\$35.80
3	48	\$22.58	\$13.99	\$15.79	\$0.00	\$52.36
4	55	\$25.88	\$13.99	\$16.26	\$0.00	\$56.13
5	65	\$30.58	\$13.99	\$16.91	\$0.00	\$61.48
6	80	\$37.64	\$13.99	\$17.90	\$0.00	\$69.53

Notes:

Steps 1-2 are 1000 hrs; Steps 3-6 are 1500 hrs.

Apprentice to Journeyworker Ratio:2:3***

ELEVATOR CONSTRUCTOR	01/01/2024	\$61.98	\$16.18	\$20.96	\$0.00	\$99.12
ELEVATOR CONSTRUCTORS LOCAL 41	01/01/2025	\$62.83	\$16.28	\$21.36	\$0.00	\$100.47
	01/01/2026	\$63.68	\$16.38	\$21.76	\$0.00	\$101.82
	01/01/2027	\$64.53	\$16.48	\$22.16	\$0.00	\$103.17

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
----------------	----------------	-----------	--------	---------	---------------------------	------------

Apprentice - ELEVATOR CONSTRUCTOR - Local 41

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.99	\$16.18	\$0.00	\$0.00	\$47.17
2	55	\$34.09	\$16.18	\$20.96	\$0.00	\$71.23
3	65	\$40.29	\$16.18	\$20.96	\$0.00	\$77.43
4	70	\$43.39	\$16.18	\$20.96	\$0.00	\$80.53
5	80	\$49.58	\$16.18	\$20.96	\$0.00	\$86.72

Effective Date - 01/01/2025

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.42	\$16.28	\$0.00	\$0.00	\$47.70
2	55	\$34.56	\$16.28	\$21.36	\$0.00	\$72.20
3	65	\$40.84	\$16.28	\$21.36	\$0.00	\$78.48
4	70	\$43.98	\$16.28	\$21.36	\$0.00	\$81.62
5	80	\$50.26	\$16.28	\$21.36	\$0.00	\$87.90

Notes:

Steps 1-2 are 6 mos.; Steps 3-5 are 1 year

Apprentice to Journeyworker Ratio:1:1

ELEVATOR CONSTRUCTOR HELPER	01/01/2024	\$43.39	\$16.18	\$20.96	\$0.00	\$80.53
ELEVATOR CONSTRUCTORS LOCAL 41	01/01/2025	\$43.98	\$16.28	\$21.36	\$0.00	\$81.62
	01/01/2026	\$44.58	\$16.38	\$21.76	\$0.00	\$82.72
	01/01/2027	\$45.17	\$16.48	\$22.16	\$0.00	\$83.81
For apprentice rates see "Apprentice - ELEVATOR CONSTRUCTOR"						
FENCE & GUARD RAIL ERECTOR (HEAVY & HIGHWAY)	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FIELD ENG.INST.PERSON-BLDG,SITE,HVY/HWY	11/01/2023	\$50.30	\$14.50	\$16.15	\$0.00	\$80.95
OPERATING ENGINEERS LOCAL 4	05/01/2024	\$51.54	\$14.50	\$16.15	\$0.00	\$82.19
	11/01/2024	\$52.83	\$14.50	\$16.15	\$0.00	\$83.48
	05/01/2025	\$54.27	\$14.50	\$16.15	\$0.00	\$84.92
	11/01/2025	\$55.56	\$14.50	\$16.15	\$0.00	\$86.21
	05/01/2026	\$57.00	\$14.50	\$16.15	\$0.00	\$87.65
	11/01/2026	\$58.29	\$14.50	\$16.15	\$0.00	\$88.94
	05/01/2027	\$59.72	\$14.50	\$16.15	\$0.00	\$90.37
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
FIELD ENG.PARTY CHIEF-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2023	\$51.87	\$14.50	\$16.15	\$0.00	\$82.52
	05/01/2024	\$53.12	\$14.50	\$16.15	\$0.00	\$83.77
	11/01/2024	\$54.42	\$14.50	\$16.15	\$0.00	\$85.07
	05/01/2025	\$55.87	\$14.50	\$16.15	\$0.00	\$86.52
	11/01/2025	\$57.17	\$14.50	\$16.15	\$0.00	\$87.82
	05/01/2026	\$58.62	\$14.50	\$16.15	\$0.00	\$89.27
	11/01/2026	\$59.92	\$14.50	\$16.15	\$0.00	\$90.57
	05/01/2027	\$61.37	\$14.50	\$16.15	\$0.00	\$92.02
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIELD ENG.ROD PERSON-BLDG,SITE,HVY/HWY <i>OPERATING ENGINEERS LOCAL 4</i>	11/01/2023	\$24.93	\$14.50	\$16.15	\$0.00	\$55.58
	05/01/2024	\$25.66	\$14.50	\$16.15	\$0.00	\$56.31
	11/01/2024	\$26.42	\$14.50	\$16.15	\$0.00	\$57.07
	05/01/2025	\$27.27	\$14.50	\$16.15	\$0.00	\$57.92
	11/01/2025	\$28.03	\$14.50	\$16.15	\$0.00	\$58.68
	05/01/2026	\$28.88	\$14.50	\$16.15	\$0.00	\$59.53
	11/01/2026	\$29.64	\$14.50	\$16.15	\$0.00	\$60.29
	05/01/2027	\$30.49	\$14.50	\$16.15	\$0.00	\$61.14
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FIRE ALARM INSTALLER <i>ELECTRICIANS LOCAL 96</i>	09/03/2023	\$45.99	\$13.00	\$18.84	\$0.00	\$77.83
	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIRE ALARM REPAIR / MAINT/COMMISSIONING <i>ELECTRICIANS LOCAL 96</i>	09/03/2023	\$45.99	\$13.00	\$18.84	\$0.00	\$77.83
	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34
For apprentice rates see "Apprentice- ELECTRICIAN"						
FIREMAN (ASST. ENGINEER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$44.47	\$15.00	\$16.40	\$0.00	\$75.87
	06/01/2024	\$45.53	\$15.00	\$16.40	\$0.00	\$76.93
	12/01/2024	\$46.71	\$15.00	\$16.40	\$0.00	\$78.11
	06/01/2025	\$47.77	\$15.00	\$16.40	\$0.00	\$79.17
	12/01/2025	\$48.94	\$15.00	\$16.40	\$0.00	\$80.34
	06/01/2026	\$50.00	\$15.00	\$16.40	\$0.00	\$81.40
	12/01/2026	\$51.18	\$15.00	\$16.40	\$0.00	\$82.58
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
FLAGGER & SIGNALER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$25.48	\$9.65	\$17.14	\$0.00	\$52.27
	06/01/2024	\$26.51	\$9.65	\$17.14	\$0.00	\$53.30
	12/01/2024	\$26.51	\$9.65	\$17.14	\$0.00	\$53.30
	06/01/2025	\$27.59	\$9.65	\$17.14	\$0.00	\$54.38
	12/01/2025	\$27.59	\$9.65	\$17.14	\$0.00	\$54.38
	06/01/2026	\$28.71	\$9.65	\$17.14	\$0.00	\$55.50
	12/01/2026	\$28.71	\$9.65	\$17.14	\$0.00	\$55.50
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
FLOORCOVERER <i>FLOORCOVERERS LOCAL 2168 ZONE II</i>	09/01/2023	\$48.97	\$8.83	\$20.27	\$0.00	\$78.07
	03/01/2024	\$49.47	\$8.83	\$20.27	\$0.00	\$78.57

Apprentice - FLOORCOVERER - Local 2168 Zone II

Effective Date - 09/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.49	\$8.83	\$1.76	\$0.00	\$35.08
2	55	\$26.93	\$8.83	\$1.76	\$0.00	\$37.52
3	60	\$29.38	\$8.83	\$3.52	\$0.00	\$41.73
4	65	\$31.83	\$8.83	\$3.52	\$0.00	\$44.18
5	70	\$34.28	\$8.83	\$16.75	\$0.00	\$59.86
6	75	\$36.73	\$8.83	\$16.75	\$0.00	\$62.31
7	80	\$39.18	\$8.83	\$18.51	\$0.00	\$66.52
8	85	\$41.62	\$8.83	\$18.51	\$0.00	\$68.96

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.74	\$8.83	\$1.76	\$0.00	\$35.33
2	55	\$27.21	\$8.83	\$1.76	\$0.00	\$37.80
3	60	\$29.68	\$8.83	\$3.52	\$0.00	\$42.03
4	65	\$32.16	\$8.83	\$3.52	\$0.00	\$44.51
5	70	\$34.63	\$8.83	\$16.75	\$0.00	\$60.21
6	75	\$37.10	\$8.83	\$16.75	\$0.00	\$62.68
7	80	\$39.58	\$8.83	\$18.51	\$0.00	\$66.92
8	85	\$42.05	\$8.83	\$18.51	\$0.00	\$69.39

Notes: Steps are 750 hrs.
% After 10/1/17; 45/45/55/55/70/70/80/80 (1500hr Steps)
Step 1&2 \$32.63/ 3&4 \$39.28/ 5&6 \$59.86/ 7&8 \$66.52

Apprentice to Journeyworker Ratio:1:1

FORK LIFT/CHERRY PICKER OPERATING ENGINEERS LOCAL 4	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

GENERATOR/LIGHTING PLANT/HEATERS OPERATING ENGINEERS LOCAL 4	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
GLAZIER (GLASS PLANK/AIR BARRIER/INTERIOR SYSTEMS) <i>GLAZIERS LOCAL 35 (ZONE 2)</i>	01/01/2024	\$45.56	\$9.95	\$23.95	\$0.00	\$79.46
	07/01/2024	\$46.76	\$9.95	\$23.95	\$0.00	\$80.66
	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

Apprentice - GLAZIER - Local 35 Zone 2

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.78	\$9.95	\$0.00	\$0.00	\$32.73
2	55	\$25.06	\$9.95	\$6.66	\$0.00	\$41.67
3	60	\$27.34	\$9.95	\$7.26	\$0.00	\$44.55
4	65	\$29.61	\$9.95	\$7.87	\$0.00	\$47.43
5	70	\$31.89	\$9.95	\$20.32	\$0.00	\$62.16
6	75	\$34.17	\$9.95	\$20.93	\$0.00	\$65.05
7	80	\$36.45	\$9.95	\$21.53	\$0.00	\$67.93
8	90	\$41.00	\$9.95	\$22.74	\$0.00	\$73.69

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$9.95	\$0.00	\$0.00	\$33.33
2	55	\$25.72	\$9.95	\$6.66	\$0.00	\$42.33
3	60	\$28.06	\$9.95	\$7.26	\$0.00	\$45.27
4	65	\$30.39	\$9.95	\$7.87	\$0.00	\$48.21
5	70	\$32.73	\$9.95	\$20.32	\$0.00	\$63.00
6	75	\$35.07	\$9.95	\$20.93	\$0.00	\$65.95
7	80	\$37.41	\$9.95	\$21.53	\$0.00	\$68.89
8	90	\$42.08	\$9.95	\$22.74	\$0.00	\$74.77

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

HOISTING ENGINEER/CRANES/GRADALLS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68

Apprentice - OPERATING ENGINEERS - Local 4

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.27	\$15.00	\$0.00	\$0.00	\$45.27
2	60	\$33.02	\$15.00	\$16.40	\$0.00	\$64.42
3	65	\$35.77	\$15.00	\$16.40	\$0.00	\$67.17
4	70	\$38.52	\$15.00	\$16.40	\$0.00	\$69.92
5	75	\$41.27	\$15.00	\$16.40	\$0.00	\$72.67
6	80	\$44.02	\$15.00	\$16.40	\$0.00	\$75.42
7	85	\$46.78	\$15.00	\$16.40	\$0.00	\$78.18
8	90	\$49.53	\$15.00	\$16.40	\$0.00	\$80.93

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$30.98	\$15.00	\$0.00	\$0.00	\$45.98
2	60	\$33.80	\$15.00	\$16.40	\$0.00	\$65.20
3	65	\$36.61	\$15.00	\$16.40	\$0.00	\$68.01
4	70	\$39.43	\$15.00	\$16.40	\$0.00	\$70.83
5	75	\$42.25	\$15.00	\$16.40	\$0.00	\$73.65
6	80	\$45.06	\$15.00	\$16.40	\$0.00	\$76.46
7	85	\$47.88	\$15.00	\$16.40	\$0.00	\$79.28
8	90	\$50.70	\$15.00	\$16.40	\$0.00	\$82.10

Notes:

Apprentice to Journeyworker Ratio:1:6

HVAC (DUCTWORK)	01/01/2024	\$43.80	\$10.64	\$17.54	\$2.05	\$74.03
SHEETMETAL WORKERS LOCAL 63	07/01/2024	\$45.05	\$10.64	\$17.54	\$2.05	\$75.28
	01/01/2025	\$46.30	\$10.64	\$17.54	\$2.05	\$76.53

For apprentice rates see "Apprentice- SHEET METAL WORKER"

HVAC (ELECTRICAL CONTROLS)	09/03/2023	\$45.99	\$13.00	\$18.84	\$0.00	\$77.83
ELECTRICIANS LOCAL 96	09/01/2024	\$47.05	\$13.99	\$19.22	\$0.00	\$80.26
	09/07/2025	\$48.16	\$14.98	\$19.60	\$0.00	\$82.74
	09/06/2026	\$49.38	\$15.96	\$20.00	\$0.00	\$85.34

For apprentice rates see "Apprentice- ELECTRICIAN"

HVAC (TESTING AND BALANCING - AIR)	01/01/2024	\$43.80	\$10.64	\$17.54	\$2.05	\$74.03
SHEETMETAL WORKERS LOCAL 63	07/01/2024	\$45.05	\$10.64	\$17.54	\$2.05	\$75.28
	01/01/2025	\$46.30	\$10.64	\$17.54	\$2.05	\$76.53

For apprentice rates see "Apprentice- SHEET METAL WORKER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
HVAC (TESTING AND BALANCING -WATER) <i>PLUMBERS LOCAL 4</i>	09/01/2023	\$52.55	\$9.90	\$17.42	\$0.00	\$79.87
	03/01/2024	\$53.95	\$9.90	\$17.42	\$0.00	\$81.27
	09/01/2024	\$55.35	\$9.90	\$17.42	\$0.00	\$82.67
	03/01/2025	\$56.75	\$9.90	\$17.42	\$0.00	\$84.07
	09/01/2025	\$58.15	\$9.90	\$17.42	\$0.00	\$85.47
	03/01/2026	\$59.55	\$9.90	\$17.42	\$0.00	\$86.87
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HVAC MECHANIC <i>PLUMBERS LOCAL 4</i>	09/01/2023	\$52.55	\$9.90	\$17.42	\$0.00	\$79.87
	03/01/2024	\$53.95	\$9.90	\$17.42	\$0.00	\$81.27
	09/01/2024	\$55.35	\$9.90	\$17.42	\$0.00	\$82.67
	03/01/2025	\$56.75	\$9.90	\$17.42	\$0.00	\$84.07
	09/01/2025	\$58.15	\$9.90	\$17.42	\$0.00	\$85.47
	03/01/2026	\$59.55	\$9.90	\$17.42	\$0.00	\$86.87
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
HYDRAULIC DRILLS <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
For apprentice rates see "Apprentice- LABORER"						
HYDRAULIC DRILLS (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.61	\$9.65	\$17.14	\$0.00	\$65.40
	06/01/2024	\$39.94	\$9.65	\$17.14	\$0.00	\$66.73
	12/01/2024	\$41.27	\$9.65	\$17.14	\$0.00	\$68.06
	06/01/2025	\$42.66	\$9.65	\$17.14	\$0.00	\$69.45
	12/01/2025	\$44.04	\$9.65	\$17.14	\$0.00	\$70.83
	06/01/2026	\$45.48	\$9.65	\$17.14	\$0.00	\$72.27
	12/01/2026	\$46.92	\$9.65	\$17.14	\$0.00	\$73.71
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
INSULATOR (PIPES & TANKS) <i>HEAT & FROST INSULATORS LOCAL 6 (WORCESTER)</i>	09/01/2023	\$48.15	\$14.75	\$19.61	\$0.00	\$82.51
	09/01/2024	\$51.23	\$14.75	\$19.61	\$0.00	\$85.59
	09/01/2025	\$54.31	\$14.75	\$19.61	\$0.00	\$88.67
	09/01/2026	\$57.38	\$14.75	\$19.61	\$0.00	\$91.74

Apprentice - ASBESTOS INSULATOR (Pipes & Tanks) - Local 6 Worcester

Effective Date - 09/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.08	\$14.75	\$14.32	\$0.00	\$53.15
2	60	\$28.89	\$14.75	\$15.37	\$0.00	\$59.01
3	70	\$33.71	\$14.75	\$16.43	\$0.00	\$64.89
4	80	\$38.52	\$14.75	\$17.49	\$0.00	\$70.76

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.62	\$14.75	\$14.32	\$0.00	\$54.69
2	60	\$30.74	\$14.75	\$15.37	\$0.00	\$60.86
3	70	\$35.86	\$14.75	\$16.43	\$0.00	\$67.04
4	80	\$40.98	\$14.75	\$17.49	\$0.00	\$73.22

Notes:

Steps are 1 year

Apprentice to Journeyworker Ratio:1:4

IRONWORKER/WELDER	03/16/2023	\$52.42	\$8.35	\$26.70	\$0.00	\$87.47
IRONWORKERS LOCAL 7 (WORCESTER AREA)	03/16/2024	\$53.67	\$8.35	\$26.70	\$0.00	\$88.72

Apprentice - IRONWORKER - Local 7 Worcester

Effective Date - 03/16/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$31.45	\$8.35	\$26.70	\$0.00	\$66.50
2	70	\$36.69	\$8.35	\$26.70	\$0.00	\$71.74
3	75	\$39.32	\$8.35	\$26.70	\$0.00	\$74.37
4	80	\$41.94	\$8.35	\$26.70	\$0.00	\$76.99
5	85	\$44.56	\$8.35	\$26.70	\$0.00	\$79.61
6	90	\$47.18	\$8.35	\$26.70	\$0.00	\$82.23

Effective Date - 03/16/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$32.20	\$8.35	\$26.70	\$0.00	\$67.25
2	70	\$37.57	\$8.35	\$26.70	\$0.00	\$72.62
3	75	\$40.25	\$8.35	\$26.70	\$0.00	\$75.30
4	80	\$42.94	\$8.35	\$26.70	\$0.00	\$77.99
5	85	\$45.62	\$8.35	\$26.70	\$0.00	\$80.67
6	90	\$48.30	\$8.35	\$26.70	\$0.00	\$83.35

Notes:

Apprentice to Journeyworker Ratio:1:4

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
JACKHAMMER & PAVING BREAKER OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
LABORER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65

Apprentice - *LABORER - Zone 2*

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.72	\$9.65	\$16.89	\$0.00	\$49.26
2	70	\$26.50	\$9.65	\$16.89	\$0.00	\$53.04
3	80	\$30.29	\$9.65	\$16.89	\$0.00	\$56.83
4	90	\$34.07	\$9.65	\$16.89	\$0.00	\$60.61

Notes:

Apprentice to Journeyworker Ratio:1:5

LABORER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
	06/01/2024	\$39.19	\$9.65	\$17.14	\$0.00	\$65.98
	12/01/2024	\$40.52	\$9.65	\$17.14	\$0.00	\$67.31
	06/01/2025	\$41.91	\$9.65	\$17.14	\$0.00	\$68.70
	12/01/2025	\$43.29	\$9.65	\$17.14	\$0.00	\$70.08
	06/01/2026	\$44.73	\$9.65	\$17.14	\$0.00	\$71.52
	12/01/2026	\$46.17	\$9.65	\$17.14	\$0.00	\$72.96

Apprentice - *LABORER (Heavy & Highway) - Zone 2*

Effective Date - 12/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$22.72	\$9.65	\$17.14	\$0.00	\$49.51
2	70	\$26.50	\$9.65	\$17.14	\$0.00	\$53.29
3	80	\$30.29	\$9.65	\$17.14	\$0.00	\$57.08
4	90	\$34.07	\$9.65	\$17.14	\$0.00	\$60.86

Effective Date - 06/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	60	\$23.51	\$9.00	\$16.89	\$0.00	\$49.40
2	70	\$27.43	\$9.00	\$16.89	\$0.00	\$53.32
3	80	\$31.35	\$9.00	\$16.89	\$0.00	\$57.24
4	90	\$35.27	\$9.00	\$16.89	\$0.00	\$61.16

Notes:

Apprentice to Journeyworker Ratio:1:5

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
LABORER: CARPENTER TENDER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
For apprentice rates see "Apprentice- LABORER"						
LABORER: CEMENT FINISHER TENDER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.36	\$9.40	\$16.89	\$0.00	\$64.65
For apprentice rates see "Apprentice- LABORER"						
LABORER: HAZARDOUS WASTE/ASBESTOS REMOVER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.95	\$9.65	\$17.20	\$0.00	\$64.80
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
LABORER: MASON TENDER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
LABORER: MULTI-TRADE TENDER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
For apprentice rates see "Apprentice- LABORER"						
LABORER: TREE REMOVER <i>LABORERS - ZONE 2</i>	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
This classification applies to the removal of standing trees, and the trimming and removal of branches and limbs when related to public works construction or site clearance incidental to construction . For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
LASER BEAM OPERATOR (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
MARBLE & TILE FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2024	\$47.89	\$11.49	\$21.37	\$0.00	\$80.75
	08/01/2024	\$49.57	\$11.49	\$21.37	\$0.00	\$82.43
	02/01/2025	\$50.61	\$11.49	\$21.37	\$0.00	\$83.47
	08/01/2025	\$52.33	\$11.49	\$21.37	\$0.00	\$85.19
	02/01/2026	\$53.41	\$11.49	\$21.37	\$0.00	\$86.27
	08/01/2026	\$55.17	\$11.49	\$21.37	\$0.00	\$88.03
	02/01/2027	\$56.29	\$11.49	\$21.37	\$0.00	\$89.15

Apprentice - MARBLE & TILE FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.95	\$11.49	\$21.37	\$0.00	\$56.81
2	60	\$28.73	\$11.49	\$21.37	\$0.00	\$61.59
3	70	\$33.52	\$11.49	\$21.37	\$0.00	\$66.38
4	80	\$38.31	\$11.49	\$21.37	\$0.00	\$71.17
5	90	\$43.10	\$11.49	\$21.37	\$0.00	\$75.96

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.79	\$11.49	\$21.37	\$0.00	\$57.65
2	60	\$29.74	\$11.49	\$21.37	\$0.00	\$62.60
3	70	\$34.70	\$11.49	\$21.37	\$0.00	\$67.56
4	80	\$39.66	\$11.49	\$21.37	\$0.00	\$72.52
5	90	\$44.61	\$11.49	\$21.37	\$0.00	\$77.47

Notes:

Apprentice to Journeyworker Ratio:1:3

MARBLE MASONS,TILELAYERS & TERRAZZO MECH	02/01/2024	\$62.42	\$11.49	\$23.56	\$0.00	\$97.47
BRICKLAYERS LOCAL 3 - MARBLE & TILE	08/01/2024	\$64.52	\$11.49	\$23.56	\$0.00	\$99.57
	02/01/2025	\$65.82	\$11.49	\$23.56	\$0.00	\$100.87
	08/01/2025	\$67.97	\$11.49	\$23.56	\$0.00	\$103.02
	02/01/2026	\$69.32	\$11.49	\$23.56	\$0.00	\$104.37
	08/01/2026	\$71.52	\$11.49	\$23.56	\$0.00	\$106.57
	02/01/2027	\$72.92	\$11.49	\$23.56	\$0.00	\$107.97

Apprentice - MARBLE-TILE-TERRAZZO MECHANIC - Local 3 Marble & Tile

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.21	\$11.49	\$23.56	\$0.00	\$66.26
2	60	\$37.45	\$11.49	\$23.56	\$0.00	\$72.50
3	70	\$43.69	\$11.49	\$23.56	\$0.00	\$78.74
4	80	\$49.94	\$11.49	\$23.56	\$0.00	\$84.99
5	90	\$56.18	\$11.49	\$23.56	\$0.00	\$91.23

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$32.26	\$11.49	\$23.56	\$0.00	\$67.31
2	60	\$38.71	\$11.49	\$23.56	\$0.00	\$73.76
3	70	\$45.16	\$11.49	\$23.56	\$0.00	\$80.21
4	80	\$51.62	\$11.49	\$23.56	\$0.00	\$86.67
5	90	\$58.07	\$11.49	\$23.56	\$0.00	\$93.12

Notes:

Apprentice to Journeyworker Ratio:1:5

MECH. SWEEPER OPERATOR (ON CONST. SITES)	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
OPERATING ENGINEERS LOCAL 4	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MECHANICS MAINTENANCE	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
OPERATING ENGINEERS LOCAL 4	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

MILLWRIGHT (Zone 3)	01/02/2023	\$40.16	\$8.58	\$21.57	\$0.00	\$70.31
MILLWRIGHTS LOCAL 1121 - Zone 3						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
Apprentice - MILLWRIGHT - Local 1121 Zone 3						
Effective Date - 01/02/2023						
Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	55	\$22.09	\$8.58	\$5.72	\$0.00	\$36.39
2	65	\$26.10	\$8.58	\$17.93	\$0.00	\$52.61
3	75	\$30.12	\$8.58	\$18.98	\$0.00	\$57.68
4	85	\$34.14	\$8.58	\$20.01	\$0.00	\$62.73
<div> Notes: Step 1&2 Appr. indentured after 1/6/2020 receive no pension, but do receive annuity. (Step 1 \$5.72, Step 2 \$6.66) Steps are 2,000 hours </div>						
Apprentice to Journeyworker Ratio:1:4						
MORTAR MIXER LABORERS - ZONE 2	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
OILER (OTHER THAN TRUCK CRANES,GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2023	\$24.41	\$15.00	\$16.40	\$0.00	\$55.81
	06/01/2024	\$25.01	\$15.00	\$16.40	\$0.00	\$56.41
	12/01/2024	\$25.67	\$15.00	\$16.40	\$0.00	\$57.07
	06/01/2025	\$26.27	\$15.00	\$16.40	\$0.00	\$57.67
	12/01/2025	\$26.93	\$15.00	\$16.40	\$0.00	\$58.33
	06/01/2026	\$27.52	\$15.00	\$16.40	\$0.00	\$58.92
	12/01/2026	\$28.19	\$15.00	\$16.40	\$0.00	\$59.59
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OILER (TRUCK CRANES, GRADALLS) OPERATING ENGINEERS LOCAL 4	12/01/2023	\$29.86	\$15.00	\$16.40	\$0.00	\$61.26
	06/01/2024	\$30.58	\$15.00	\$16.40	\$0.00	\$61.98
	12/01/2024	\$31.38	\$15.00	\$16.40	\$0.00	\$62.78
	06/01/2025	\$32.10	\$15.00	\$16.40	\$0.00	\$63.50
	12/01/2025	\$32.90	\$15.00	\$16.40	\$0.00	\$64.30
	06/01/2026	\$33.62	\$15.00	\$16.40	\$0.00	\$65.02
	12/01/2026	\$34.42	\$15.00	\$16.40	\$0.00	\$65.82
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
OTHER POWER DRIVEN EQUIPMENT - CLASS II OPERATING ENGINEERS LOCAL 4	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PAINTER (BRIDGES/TANKS) PAINTERS LOCAL 35 - ZONE 2	01/01/2024	\$56.06	\$9.95	\$23.95	\$0.00	\$89.96
	07/01/2024	\$57.26	\$9.95	\$23.95	\$0.00	\$91.16
	01/01/2025	\$58.46	\$9.95	\$23.95	\$0.00	\$92.36

Apprentice - PAINTER Local 35 - BRIDGES/TANKS

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.03	\$9.95	\$0.00	\$0.00	\$37.98
2	55	\$30.83	\$9.95	\$6.66	\$0.00	\$47.44
3	60	\$33.64	\$9.95	\$7.26	\$0.00	\$50.85
4	65	\$36.44	\$9.95	\$7.87	\$0.00	\$54.26
5	70	\$39.24	\$9.95	\$20.32	\$0.00	\$69.51
6	75	\$42.05	\$9.95	\$20.93	\$0.00	\$72.93
7	80	\$44.85	\$9.95	\$21.53	\$0.00	\$76.33
8	90	\$50.45	\$9.95	\$22.74	\$0.00	\$83.14

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$28.63	\$9.95	\$0.00	\$0.00	\$38.58
2	55	\$31.49	\$9.95	\$6.66	\$0.00	\$48.10
3	60	\$34.36	\$9.95	\$7.26	\$0.00	\$51.57
4	65	\$37.22	\$9.95	\$7.87	\$0.00	\$55.04
5	70	\$40.08	\$9.95	\$20.32	\$0.00	\$70.35
6	75	\$42.95	\$9.95	\$20.93	\$0.00	\$73.83
7	80	\$45.81	\$9.95	\$21.53	\$0.00	\$77.29
8	90	\$51.53	\$9.95	\$22.74	\$0.00	\$84.22

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, NEW) *	01/01/2024	\$46.96	\$9.95	\$23.95	\$0.00	\$80.86
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$48.16	\$9.95	\$23.95	\$0.00	\$82.06
	01/01/2025	\$49.36	\$9.95	\$23.95	\$0.00	\$83.26

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - New

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.48	\$9.95	\$0.00	\$0.00	\$33.43
2	55	\$25.83	\$9.95	\$6.66	\$0.00	\$42.44
3	60	\$28.18	\$9.95	\$7.26	\$0.00	\$45.39
4	65	\$30.52	\$9.95	\$7.87	\$0.00	\$48.34
5	70	\$32.87	\$9.95	\$20.32	\$0.00	\$63.14
6	75	\$35.22	\$9.95	\$20.93	\$0.00	\$66.10
7	80	\$37.57	\$9.95	\$21.53	\$0.00	\$69.05
8	90	\$42.26	\$9.95	\$22.74	\$0.00	\$74.95

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$24.08	\$9.95	\$0.00	\$0.00	\$34.03
2	55	\$26.49	\$9.95	\$6.66	\$0.00	\$43.10
3	60	\$28.90	\$9.95	\$7.26	\$0.00	\$46.11
4	65	\$31.30	\$9.95	\$7.87	\$0.00	\$49.12
5	70	\$33.71	\$9.95	\$20.32	\$0.00	\$63.98
6	75	\$36.12	\$9.95	\$20.93	\$0.00	\$67.00
7	80	\$38.53	\$9.95	\$21.53	\$0.00	\$70.01
8	90	\$43.34	\$9.95	\$22.74	\$0.00	\$76.03

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER (SPRAY OR SANDBLAST, REPAINT)	01/01/2024	\$45.02	\$9.95	\$23.95	\$0.00	\$78.92
PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$46.22	\$9.95	\$23.95	\$0.00	\$80.12
	01/01/2025	\$47.42	\$9.95	\$23.95	\$0.00	\$81.32

Apprentice - PAINTER Local 35 Zone 2 - Spray/Sandblast - Repaint

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.51	\$9.95	\$0.00	\$0.00	\$32.46
2	55	\$24.76	\$9.95	\$6.66	\$0.00	\$41.37
3	60	\$27.01	\$9.95	\$7.26	\$0.00	\$44.22
4	65	\$29.26	\$9.95	\$7.87	\$0.00	\$47.08
5	70	\$31.51	\$9.95	\$20.32	\$0.00	\$61.78
6	75	\$33.77	\$9.95	\$20.93	\$0.00	\$64.65
7	80	\$36.02	\$9.95	\$21.53	\$0.00	\$67.50
8	90	\$40.52	\$9.95	\$22.74	\$0.00	\$73.21

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.11	\$9.95	\$0.00	\$0.00	\$33.06
2	55	\$25.42	\$9.95	\$6.66	\$0.00	\$42.03
3	60	\$27.73	\$9.95	\$7.26	\$0.00	\$44.94
4	65	\$30.04	\$9.95	\$7.87	\$0.00	\$47.86
5	70	\$32.35	\$9.95	\$20.32	\$0.00	\$62.62
6	75	\$34.67	\$9.95	\$20.93	\$0.00	\$65.55
7	80	\$36.98	\$9.95	\$21.53	\$0.00	\$68.46
8	90	\$41.60	\$9.95	\$22.74	\$0.00	\$74.29

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, NEW) *	01/01/2024	\$45.56	\$9.95	\$23.95	\$0.00	\$79.46
* If 30% or more of surfaces to be painted are new construction, NEW paint rate shall be used.PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$46.76	\$9.95	\$23.95	\$0.00	\$80.66
	01/01/2025	\$47.96	\$9.95	\$23.95	\$0.00	\$81.86

Apprentice - PAINTER - Local 35 Zone 2 - BRUSH NEW

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.78	\$9.95	\$0.00	\$0.00	\$32.73
2	55	\$25.06	\$9.95	\$6.66	\$0.00	\$41.67
3	60	\$27.34	\$9.95	\$7.26	\$0.00	\$44.55
4	65	\$29.61	\$9.95	\$7.87	\$0.00	\$47.43
5	70	\$31.89	\$9.95	\$20.32	\$0.00	\$62.16
6	75	\$34.17	\$9.95	\$20.93	\$0.00	\$65.05
7	80	\$36.45	\$9.95	\$21.53	\$0.00	\$67.93
8	90	\$41.00	\$9.95	\$22.74	\$0.00	\$73.69

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$23.38	\$9.95	\$0.00	\$0.00	\$33.33
2	55	\$25.72	\$9.95	\$6.66	\$0.00	\$42.33
3	60	\$28.06	\$9.95	\$7.26	\$0.00	\$45.27
4	65	\$30.39	\$9.95	\$7.87	\$0.00	\$48.21
5	70	\$32.73	\$9.95	\$20.32	\$0.00	\$63.00
6	75	\$35.07	\$9.95	\$20.93	\$0.00	\$65.95
7	80	\$37.41	\$9.95	\$21.53	\$0.00	\$68.89
8	90	\$42.08	\$9.95	\$22.74	\$0.00	\$74.77

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER / TAPER (BRUSH, REPAINT)	01/01/2024	\$43.62	\$9.95	\$23.95	\$0.00	\$77.52
PAINTERS LOCAL 35 - ZONE 2	07/01/2024	\$44.82	\$9.95	\$23.95	\$0.00	\$78.72
	01/01/2025	\$46.02	\$9.95	\$23.95	\$0.00	\$79.92

Apprentice - PAINTER Local 35 Zone 2 - BRUSH REPAINT

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$21.81	\$9.95	\$0.00	\$0.00	\$31.76
2	55	\$23.99	\$9.95	\$6.66	\$0.00	\$40.60
3	60	\$26.17	\$9.95	\$7.26	\$0.00	\$43.38
4	65	\$28.35	\$9.95	\$7.87	\$0.00	\$46.17
5	70	\$30.53	\$9.95	\$20.32	\$0.00	\$60.80
6	75	\$32.72	\$9.95	\$20.93	\$0.00	\$63.60
7	80	\$34.90	\$9.95	\$21.53	\$0.00	\$66.38
8	90	\$39.26	\$9.95	\$22.74	\$0.00	\$71.95

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$22.41	\$9.95	\$0.00	\$0.00	\$32.36
2	55	\$24.65	\$9.95	\$6.66	\$0.00	\$41.26
3	60	\$26.89	\$9.95	\$7.26	\$0.00	\$44.10
4	65	\$29.13	\$9.95	\$7.87	\$0.00	\$46.95
5	70	\$31.37	\$9.95	\$20.32	\$0.00	\$61.64
6	75	\$33.62	\$9.95	\$20.93	\$0.00	\$64.50
7	80	\$35.86	\$9.95	\$21.53	\$0.00	\$67.34
8	90	\$40.34	\$9.95	\$22.74	\$0.00	\$73.03

Notes:

Steps are 750 hrs.

Apprentice to Journeyworker Ratio:1:1

PAINTER TRAFFIC MARKINGS (HEAVY/HIGHWAY) LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2023	\$37.86	\$9.65	\$17.14	\$0.00	\$64.65
	06/01/2024	\$39.19	\$9.65	\$17.14	\$0.00	\$65.98
	12/01/2024	\$40.52	\$9.65	\$17.14	\$0.00	\$67.31
	06/01/2025	\$41.91	\$9.65	\$17.14	\$0.00	\$68.70
	12/01/2025	\$43.29	\$9.65	\$17.14	\$0.00	\$70.08
	06/01/2026	\$44.73	\$9.65	\$17.14	\$0.00	\$71.52
	12/01/2026	\$46.17	\$9.65	\$17.14	\$0.00	\$72.96

For apprentice rates see "Apprentice- LABORER (Heavy and Highway)

PANEL & PICKUP TRUCKS DRIVER TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	01/01/2024	\$38.78	\$15.07	\$18.67	\$0.00	\$72.52
	06/01/2024	\$39.78	\$15.07	\$18.67	\$0.00	\$73.52
	12/01/2024	\$39.78	\$15.07	\$20.17	\$0.00	\$75.02
	01/01/2025	\$39.78	\$15.57	\$20.17	\$0.00	\$75.52
	06/01/2025	\$40.78	\$15.57	\$20.17	\$0.00	\$76.52
	12/01/2025	\$40.78	\$15.57	\$21.78	\$0.00	\$78.13
	01/01/2026	\$40.78	\$16.17	\$21.78	\$0.00	\$78.73
	06/01/2026	\$41.78	\$16.17	\$21.78	\$0.00	\$79.73
	12/01/2026	\$41.78	\$16.17	\$23.52	\$0.00	\$81.47
	01/01/2027	\$41.78	\$16.77	\$23.52	\$0.00	\$82.07

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
PIER AND DOCK CONSTRUCTOR (UNDERPINNING AND DECK) <i>PILE DRIVER LOCAL 56 (ZONE 2)</i> For apprentice rates see "Apprentice- PILE DRIVER"	08/01/2020	\$46.11	\$9.40	\$23.12	\$0.00	\$78.63
PILE DRIVER <i>PILE DRIVER LOCAL 56 (ZONE 2)</i>	08/01/2020	\$46.11	\$9.40	\$23.12	\$0.00	\$78.63

Apprentice - PILE DRIVER - Local 56 Zone 2

Effective Date - 08/01/2020

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	0	\$0.00	\$0.00	\$0.00	\$0.00	\$0.00

Notes: Apprentice wages shall be no less than the following Steps;

(Same as set in Zone 1)

1\$57.06/2\$61.96/3\$66.87/4\$69.32/5\$71.78/6\$71.78/7\$76.68/8\$76.68

Apprentice to Journeyworker Ratio:1:5

PIPELAYER <i>LABORERS - ZONE 2</i> For apprentice rates see "Apprentice- LABORER"	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
PIPELAYER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
PLUMBER & PIPEFITTER <i>PLUMBERS LOCAL 4</i>	09/01/2023	\$52.55	\$9.90	\$17.42	\$0.00	\$79.87
	03/01/2024	\$53.95	\$9.90	\$17.42	\$0.00	\$81.27
	09/01/2024	\$55.35	\$9.90	\$17.42	\$0.00	\$82.67
	03/01/2025	\$56.75	\$9.90	\$17.42	\$0.00	\$84.07
	09/01/2025	\$58.15	\$9.90	\$17.42	\$0.00	\$85.47
	03/01/2026	\$59.55	\$9.90	\$17.42	\$0.00	\$86.87

Apprentice - PLUMBER/PIPEFITTER - Local 4

Effective Date - 09/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$21.02	\$9.90	\$0.00	\$0.00	\$30.92
2	50	\$26.28	\$9.90	\$0.00	\$0.00	\$36.18
3	60	\$31.53	\$9.90	\$0.00	\$0.00	\$41.43
4	70	\$36.79	\$9.90	\$7.71	\$0.00	\$54.40
5	80	\$42.04	\$9.90	\$7.71	\$0.00	\$59.65

Effective Date - 03/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	40	\$21.58	\$9.90	\$0.00	\$0.00	\$31.48
2	50	\$26.98	\$9.90	\$0.00	\$0.00	\$36.88
3	60	\$32.37	\$9.90	\$0.00	\$0.00	\$42.27
4	70	\$37.77	\$9.90	\$7.71	\$0.00	\$55.38
5	80	\$43.16	\$9.90	\$7.71	\$0.00	\$60.77

Notes:

Steps - 2000 hrs; Step 4 w/lic 75%, Step 5 w/lic 85%

Step 4 w/lic \$52.59, Step 5 w/lic \$57.44

Apprentice to Journeyworker Ratio:1:3

PNEUMATIC CONTROLS (TEMP.)	09/01/2023	\$52.55	\$9.90	\$17.42	\$0.00	\$79.87
PLUMBERS LOCAL 4	03/01/2024	\$53.95	\$9.90	\$17.42	\$0.00	\$81.27
	09/01/2024	\$55.35	\$9.90	\$17.42	\$0.00	\$82.67
	03/01/2025	\$56.75	\$9.90	\$17.42	\$0.00	\$84.07
	09/01/2025	\$58.15	\$9.90	\$17.42	\$0.00	\$85.47
	03/01/2026	\$59.55	\$9.90	\$17.42	\$0.00	\$86.87
For apprentice rates see "Apprentice- PIPEFITTER" or "PLUMBER/PIPEFITTER"						
PNEUMATIC DRILL/TOOL OPERATOR	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
LABORERS - ZONE 2						
For apprentice rates see "Apprentice- LABORER"						
PNEUMATIC DRILL/TOOL OPERATOR (HEAVY & HIGHWAY)	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
LABORERS - ZONE 2 (HEAVY & HIGHWAY)	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
POWDERMAN & BLASTER	12/01/2023	\$38.86	\$9.65	\$17.14	\$0.00	\$65.65
LABORERS - ZONE 2						
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
POWDERMAN & BLASTER (HEAVY & HIGHWAY) <i>LABORERS - ZONE 2 (HEAVY & HIGHWAY)</i>	12/01/2023	\$39.36	\$9.40	\$16.89	\$0.00	\$65.65
	06/01/2024	\$40.69	\$9.40	\$16.89	\$0.00	\$66.98
	12/01/2024	\$42.02	\$9.40	\$16.89	\$0.00	\$68.31
	06/01/2025	\$43.41	\$9.40	\$16.89	\$0.00	\$69.70
	12/01/2025	\$44.79	\$9.40	\$16.89	\$0.00	\$71.08
	06/01/2026	\$46.23	\$9.40	\$16.89	\$0.00	\$72.52
	12/01/2026	\$47.67	\$9.40	\$16.89	\$0.00	\$73.96
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)						
POWER SHOVEL/DERRICK/TRENCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (CONCRETE) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
PUMP OPERATOR (DEWATERING, OTHER) <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$35.62	\$15.00	\$16.40	\$0.00	\$67.02
	06/01/2024	\$36.47	\$15.00	\$16.40	\$0.00	\$67.87
	12/01/2024	\$37.42	\$15.00	\$16.40	\$0.00	\$68.82
	06/01/2025	\$38.27	\$15.00	\$16.40	\$0.00	\$69.67
	12/01/2025	\$39.22	\$15.00	\$16.40	\$0.00	\$70.62
	06/01/2026	\$40.08	\$15.00	\$16.40	\$0.00	\$71.48
	12/01/2026	\$41.03	\$15.00	\$16.40	\$0.00	\$72.43
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
READY-MIX CONCRETE DRIVER <i>TEAMSTERS 170 - Dauphinais (Bellingham)</i>	01/01/2024	\$27.00	\$10.76	\$5.45	\$0.00	\$43.21
	12/01/2024	\$27.60	\$11.26	\$6.15	\$0.00	\$45.01
	01/01/2025	\$27.60	\$11.26	\$6.15	\$0.00	\$45.01
RECLAIMERS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
RIDE-ON MOTORIZED BUGGY OPERATOR <i>LABORERS - ZONE 2</i>	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
ROLLER/SPREADER/MULCHING MACHINE <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

For apprentice rates see "Apprentice- OPERATING ENGINEERS"

ROOFER (Inc.Roofing Waterproofing &Roofing Damproofg) <i>ROOFERS LOCAL 33</i>	02/01/2024	\$50.03	\$12.78	\$21.45	\$0.00	\$84.26
	08/01/2024	\$51.53	\$12.78	\$21.45	\$0.00	\$85.76
	02/01/2025	\$52.78	\$12.78	\$21.45	\$0.00	\$87.01
	08/01/2025	\$54.28	\$12.78	\$21.45	\$0.00	\$88.51
	02/01/2026	\$55.53	\$12.78	\$21.45	\$0.00	\$89.76

Apprentice - ROOFER - Local 33

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.02	\$12.78	\$6.21	\$0.00	\$44.01
2	60	\$30.02	\$12.78	\$21.45	\$0.00	\$64.25
3	65	\$32.52	\$12.78	\$21.45	\$0.00	\$66.75
4	75	\$37.52	\$12.78	\$21.45	\$0.00	\$71.75
5	85	\$42.53	\$12.78	\$21.45	\$0.00	\$76.76

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$25.77	\$12.78	\$6.21	\$0.00	\$44.76
2	60	\$30.92	\$12.78	\$21.45	\$0.00	\$65.15
3	65	\$33.49	\$12.78	\$21.45	\$0.00	\$67.72
4	75	\$38.65	\$12.78	\$21.45	\$0.00	\$72.88
5	85	\$43.80	\$12.78	\$21.45	\$0.00	\$78.03

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 <i>ROOFERS LOCAL 33</i>	02/01/2024	\$50.28	\$12.78	\$21.45	\$0.00	\$84.51
	08/01/2024	\$51.78	\$12.78	\$21.45	\$0.00	\$86.01
	02/01/2025	\$53.03	\$12.78	\$21.45	\$0.00	\$87.26
	08/01/2025	\$54.53	\$12.78	\$21.45	\$0.00	\$88.76
	02/01/2026	\$55.78	\$12.78	\$21.45	\$0.00	\$90.01

For apprentice rates see "Apprentice- ROOFER"

SHEETMETAL WORKER <i>SHEETMETAL WORKERS LOCAL 63</i>	01/01/2024	\$43.80	\$10.64	\$17.54	\$2.05	\$74.03
	07/01/2024	\$45.05	\$10.64	\$17.54	\$2.05	\$75.28
	01/01/2025	\$46.30	\$10.64	\$17.54	\$2.05	\$76.53

Apprentice - SHEET METAL WORKER - Local 63

Effective Date - 01/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$19.71	\$4.79	\$4.76	\$0.92	\$30.18
2	50	\$21.90	\$5.32	\$5.29	\$1.03	\$33.54
3	55	\$24.09	\$5.85	\$5.82	\$1.13	\$36.89
4	60	\$26.28	\$6.38	\$6.35	\$1.23	\$40.24
5	65	\$28.47	\$6.92	\$6.88	\$1.33	\$43.60
6	70	\$30.66	\$7.45	\$7.41	\$1.44	\$46.96
7	75	\$32.85	\$7.98	\$7.94	\$1.54	\$50.31
8	80	\$35.04	\$8.51	\$15.42	\$1.64	\$60.61
9	85	\$37.23	\$9.04	\$15.95	\$1.74	\$63.96
10	90	\$39.42	\$9.58	\$16.48	\$1.85	\$67.33

Effective Date - 07/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$20.27	\$4.79	\$4.76	\$0.92	\$30.74
2	50	\$22.53	\$5.32	\$5.29	\$1.03	\$34.17
3	55	\$24.78	\$5.85	\$5.82	\$1.13	\$37.58
4	60	\$27.03	\$6.38	\$6.35	\$1.23	\$40.99
5	65	\$29.28	\$6.92	\$6.88	\$1.33	\$44.41
6	70	\$31.54	\$7.45	\$7.41	\$1.44	\$47.84
7	75	\$33.79	\$7.98	\$7.94	\$1.54	\$51.25
8	80	\$36.04	\$8.51	\$15.42	\$1.64	\$61.61
9	85	\$38.29	\$9.04	\$15.95	\$1.74	\$65.02
10	90	\$40.55	\$9.58	\$16.48	\$1.85	\$68.46

Notes:

Apprentice to Journeyworker Ratio:1:3

SPECIALIZED EARTH MOVING EQUIP < 35 TONS	01/01/2024	\$39.24	\$15.07	\$18.67	\$0.00	\$72.98
TEAMSTERS JOINT COUNCIL NO. 10 ZONE B	06/01/2024	\$40.24	\$15.07	\$18.67	\$0.00	\$73.98
	12/01/2024	\$40.24	\$15.07	\$20.17	\$0.00	\$75.48
	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
SPECIALIZED EARTH MOVING EQUIP > 35 TONS <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.53	\$15.07	\$18.67	\$0.00	\$73.27
	06/01/2024	\$40.53	\$15.07	\$18.67	\$0.00	\$74.27
	12/01/2024	\$40.53	\$15.07	\$20.17	\$0.00	\$75.77
	01/01/2025	\$40.53	\$15.57	\$20.17	\$0.00	\$76.27
	06/01/2025	\$41.53	\$15.57	\$20.17	\$0.00	\$77.27
	12/01/2025	\$41.53	\$15.57	\$21.78	\$0.00	\$78.88
	01/01/2026	\$41.53	\$16.17	\$21.78	\$0.00	\$79.48
	06/01/2026	\$42.53	\$16.17	\$21.78	\$0.00	\$80.48
	12/01/2026	\$42.53	\$16.17	\$23.52	\$0.00	\$82.22
	01/01/2027	\$42.53	\$16.77	\$23.52	\$0.00	\$82.82
SPRINKLER FITTER <i>SPRINKLER FITTERS LOCAL 669</i>	04/01/2023	\$47.43	\$11.45	\$16.61	\$0.00	\$75.49

Apprentice - SPRINKLER FITTER - Local 669

Effective Date - 04/01/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	45	\$21.34	\$8.22	\$0.00	\$0.00	\$29.56
2	50	\$23.72	\$8.22	\$0.00	\$0.00	\$31.94
3	55	\$26.09	\$11.45	\$7.20	\$0.00	\$44.74
4	60	\$28.46	\$11.45	\$8.35	\$0.00	\$48.26
5	65	\$30.83	\$11.45	\$8.35	\$0.00	\$50.63
6	70	\$33.20	\$11.45	\$8.60	\$0.00	\$53.25
7	75	\$35.57	\$11.45	\$8.60	\$0.00	\$55.62
8	80	\$37.94	\$11.45	\$8.60	\$0.00	\$57.99
9	85	\$40.32	\$11.45	\$8.60	\$0.00	\$60.37
10	90	\$42.69	\$11.45	\$8.60	\$0.00	\$62.74

Notes:

Apprentice to Journeyworker Ratio:1:1

STEAM BOILER OPERATOR <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TAMPERS, SELF-PROPELLED OR TRACTOR DRAWN <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TERRAZZO FINISHERS <i>BRICKLAYERS LOCAL 3 - MARBLE & TILE</i>	02/01/2024	\$61.34	\$11.49	\$23.59	\$0.00	\$96.42
	08/01/2024	\$63.44	\$11.49	\$23.59	\$0.00	\$98.52
	02/01/2025	\$64.74	\$11.49	\$23.59	\$0.00	\$99.82
	08/01/2025	\$66.89	\$11.49	\$23.59	\$0.00	\$101.97
	02/01/2026	\$68.24	\$11.49	\$23.59	\$0.00	\$103.32
	08/01/2026	\$70.44	\$11.49	\$23.59	\$0.00	\$105.52
	02/01/2027	\$71.84	\$11.49	\$23.59	\$0.00	\$106.92

Apprentice - TERRAZZO FINISHER - Local 3 Marble & Tile

Effective Date - 02/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$30.67	\$11.49	\$23.59	\$0.00	\$65.75
2	60	\$36.80	\$11.49	\$23.59	\$0.00	\$71.88
3	70	\$42.94	\$11.49	\$23.59	\$0.00	\$78.02
4	80	\$49.07	\$11.49	\$23.59	\$0.00	\$84.15
5	90	\$55.21	\$11.49	\$23.59	\$0.00	\$90.29

Effective Date - 08/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$31.72	\$11.49	\$23.59	\$0.00	\$66.80
2	60	\$38.06	\$11.49	\$23.59	\$0.00	\$73.14
3	70	\$44.41	\$11.49	\$23.59	\$0.00	\$79.49
4	80	\$50.75	\$11.49	\$23.59	\$0.00	\$85.83
5	90	\$57.10	\$11.49	\$23.59	\$0.00	\$92.18

Notes:

Apprentice to Journeyworker Ratio:1:3

TEST BORING DRILLER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$48.33	\$9.65	\$18.22	\$0.00	\$76.20
	06/01/2024	\$49.81	\$9.65	\$18.22	\$0.00	\$77.68
	12/01/2024	\$51.28	\$9.65	\$18.22	\$0.00	\$79.15
	06/01/2025	\$52.78	\$9.65	\$18.22	\$0.00	\$80.65
	12/01/2025	\$54.28	\$9.65	\$18.22	\$0.00	\$82.15
	06/01/2026	\$55.83	\$9.65	\$18.22	\$0.00	\$83.70
	12/01/2026	\$57.33	\$9.65	\$18.22	\$0.00	\$85.20

For apprentice rates see "Apprentice- LABORER"

TEST BORING DRILLER HELPER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$44.45	\$9.65	\$18.22	\$0.00	\$72.32
	06/01/2024	\$45.93	\$9.65	\$18.22	\$0.00	\$73.80
	12/01/2024	\$47.40	\$9.65	\$18.22	\$0.00	\$75.27
	06/01/2025	\$48.90	\$9.65	\$18.22	\$0.00	\$76.77
	12/01/2025	\$50.40	\$9.65	\$18.22	\$0.00	\$78.27
	06/01/2026	\$51.95	\$9.65	\$18.22	\$0.00	\$79.82
	12/01/2026	\$53.45	\$9.65	\$18.22	\$0.00	\$81.32

For apprentice rates see "Apprentice- LABORER"

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TEST BORING LABORER <i>LABORERS - FOUNDATION AND MARINE</i>	12/01/2023	\$44.33	\$9.65	\$18.22	\$0.00	\$72.20
	06/01/2024	\$45.81	\$9.65	\$18.22	\$0.00	\$73.68
	12/01/2024	\$47.28	\$9.65	\$18.22	\$0.00	\$75.15
	06/01/2025	\$48.78	\$9.65	\$18.22	\$0.00	\$76.65
	12/01/2025	\$50.28	\$9.65	\$18.22	\$0.00	\$78.15
	06/01/2026	\$51.83	\$9.65	\$18.22	\$0.00	\$79.70
	12/01/2026	\$53.33	\$9.65	\$18.22	\$0.00	\$81.20
For apprentice rates see "Apprentice- LABORER"						
TRACTORS/PORTABLE STEAM GENERATORS <i>OPERATING ENGINEERS LOCAL 4</i>	12/01/2023	\$54.43	\$15.00	\$16.40	\$0.00	\$85.83
	06/01/2024	\$55.71	\$15.00	\$16.40	\$0.00	\$87.11
	12/01/2024	\$57.15	\$15.00	\$16.40	\$0.00	\$88.55
	06/01/2025	\$58.43	\$15.00	\$16.40	\$0.00	\$89.83
	12/01/2025	\$59.87	\$15.00	\$16.40	\$0.00	\$91.27
	06/01/2026	\$61.15	\$15.00	\$16.40	\$0.00	\$92.55
	12/01/2026	\$62.59	\$15.00	\$16.40	\$0.00	\$93.99
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
TRAILERS FOR EARTH MOVING EQUIPMENT <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.82	\$15.07	\$18.67	\$0.00	\$73.56
	06/01/2024	\$40.82	\$15.07	\$18.67	\$0.00	\$74.56
	12/01/2024	\$40.82	\$15.07	\$20.17	\$0.00	\$76.06
	01/01/2025	\$40.82	\$15.57	\$20.17	\$0.00	\$76.56
	06/01/2025	\$41.82	\$15.57	\$20.17	\$0.00	\$77.56
	12/01/2025	\$41.82	\$15.57	\$21.78	\$0.00	\$79.17
	01/01/2026	\$41.82	\$16.17	\$21.78	\$0.00	\$79.77
	06/01/2026	\$42.82	\$16.17	\$21.78	\$0.00	\$80.77
	12/01/2026	\$42.82	\$16.17	\$23.52	\$0.00	\$82.51
	01/01/2027	\$42.82	\$16.77	\$23.52	\$0.00	\$83.11
TUNNEL WORK - COMPRESSED AIR <i>LABORERS (COMPRESSED AIR)</i>	12/01/2023	\$56.56	\$9.65	\$18.67	\$0.00	\$84.88
	06/01/2024	\$58.04	\$9.65	\$18.67	\$0.00	\$86.36
	12/01/2024	\$59.51	\$9.65	\$18.67	\$0.00	\$87.83
	06/01/2025	\$61.01	\$9.65	\$18.67	\$0.00	\$89.33
	12/01/2025	\$62.51	\$9.65	\$18.67	\$0.00	\$90.83
	06/01/2026	\$64.06	\$9.65	\$18.67	\$0.00	\$92.38
	12/01/2026	\$65.56	\$9.65	\$18.67	\$0.00	\$93.88
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - COMPRESSED AIR (HAZ. WASTE) <i>LABORERS (COMPRESSED AIR)</i>	12/01/2023	\$58.56	\$9.65	\$18.67	\$0.00	\$86.88
	06/01/2024	\$60.04	\$9.65	\$18.67	\$0.00	\$88.36
	12/01/2024	\$61.51	\$9.65	\$18.67	\$0.00	\$89.83
	06/01/2025	\$63.01	\$9.65	\$18.67	\$0.00	\$91.33
	12/01/2025	\$64.51	\$9.65	\$18.67	\$0.00	\$92.83
	06/01/2026	\$66.06	\$9.65	\$18.67	\$0.00	\$94.38
	12/01/2026	\$67.56	\$9.65	\$18.67	\$0.00	\$95.88
For apprentice rates see "Apprentice- LABORER"						

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
TUNNEL WORK - FREE AIR <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2023	\$48.63	\$9.65	\$18.67	\$0.00	\$76.95
	06/01/2024	\$50.11	\$9.65	\$18.67	\$0.00	\$78.43
	12/01/2024	\$51.58	\$9.65	\$18.67	\$0.00	\$79.90
	06/01/2025	\$53.08	\$9.65	\$18.67	\$0.00	\$81.40
	12/01/2025	\$54.58	\$9.65	\$18.67	\$0.00	\$82.90
	06/01/2026	\$56.13	\$9.65	\$18.67	\$0.00	\$84.45
	12/01/2026	\$57.63	\$9.65	\$18.67	\$0.00	\$85.95
For apprentice rates see "Apprentice- LABORER"						
TUNNEL WORK - FREE AIR (HAZ. WASTE) <i>LABORERS (FREE AIR TUNNEL)</i>	12/01/2023	\$50.63	\$9.65	\$18.67	\$0.00	\$78.95
	06/01/2024	\$52.11	\$9.65	\$18.67	\$0.00	\$80.43
	12/01/2024	\$53.58	\$9.65	\$18.67	\$0.00	\$81.90
	06/01/2025	\$55.08	\$9.65	\$18.67	\$0.00	\$83.40
	12/01/2025	\$56.58	\$9.65	\$18.67	\$0.00	\$84.90
	06/01/2026	\$58.13	\$9.65	\$18.67	\$0.00	\$86.45
	12/01/2026	\$59.63	\$9.65	\$18.67	\$0.00	\$87.95
For apprentice rates see "Apprentice- LABORER"						
VAC-HAUL <i>TEAMSTERS JOINT COUNCIL NO. 10 ZONE B</i>	01/01/2024	\$39.24	\$15.07	\$18.67	\$0.00	\$72.98
	06/01/2024	\$40.24	\$15.07	\$18.67	\$0.00	\$73.98
	12/01/2024	\$40.24	\$15.07	\$20.17	\$0.00	\$75.48
	01/01/2025	\$40.24	\$15.57	\$20.17	\$0.00	\$75.98
	06/01/2025	\$41.24	\$15.57	\$20.17	\$0.00	\$76.98
	12/01/2025	\$41.24	\$15.57	\$21.78	\$0.00	\$78.59
	01/01/2026	\$41.24	\$16.17	\$21.78	\$0.00	\$79.19
	06/01/2026	\$42.24	\$16.17	\$21.78	\$0.00	\$80.19
	12/01/2026	\$42.24	\$16.17	\$23.52	\$0.00	\$81.93
	01/01/2027	\$42.24	\$16.77	\$23.52	\$0.00	\$82.53
VOICE-DATA-VIDEO TECHNICIAN <i>ELECTRICIANS LOCAL 96</i>	09/03/2023	\$34.49	\$13.00	\$17.22	\$0.00	\$64.71
	09/01/2024	\$35.29	\$13.99	\$17.57	\$0.00	\$66.85
	09/07/2025	\$36.12	\$14.98	\$17.91	\$0.00	\$69.01
	09/06/2026	\$37.04	\$15.96	\$18.27	\$0.00	\$71.27

Apprentice - VOICE-DATA-VIDEO TECHNICIAN - Local 96

Effective Date - 09/03/2023

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.25	\$13.00	\$4.31	\$0.00	\$34.56
2	55	\$18.97	\$13.00	\$4.36	\$0.00	\$36.33
3	60	\$20.69	\$13.00	\$16.81	\$0.00	\$50.50
4	65	\$22.42	\$13.00	\$16.86	\$0.00	\$52.28
5	70	\$24.14	\$13.00	\$16.91	\$0.00	\$54.05
6	75	\$25.87	\$13.00	\$16.97	\$0.00	\$55.84
7	80	\$27.59	\$13.00	\$17.02	\$0.00	\$57.61
8	85	\$29.32	\$13.00	\$17.07	\$0.00	\$59.39

Effective Date - 09/01/2024

Step	percent	Apprentice Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
1	50	\$17.65	\$13.99	\$4.41	\$0.00	\$36.05
2	55	\$19.41	\$13.99	\$4.46	\$0.00	\$37.86
3	60	\$21.17	\$13.99	\$17.15	\$0.00	\$52.31
4	65	\$22.94	\$13.99	\$17.20	\$0.00	\$54.13
5	70	\$24.70	\$13.99	\$17.25	\$0.00	\$55.94
6	75	\$26.47	\$13.99	\$17.30	\$0.00	\$57.76
7	80	\$28.23	\$13.99	\$17.36	\$0.00	\$59.58
8	85	\$30.00	\$13.99	\$17.41	\$0.00	\$61.40

Notes:

Apprentice to Journeyworker Ratio:1:1

WAGON DRILL OPERATOR LABORERS - ZONE 2	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
For apprentice rates see "Apprentice- LABORER"						
WAGON DRILL OPERATOR (HEAVY & HIGHWAY) LABORERS - ZONE 2 (HEAVY & HIGHWAY)	12/01/2023	\$38.11	\$9.65	\$17.14	\$0.00	\$64.90
	06/01/2024	\$39.44	\$9.65	\$17.14	\$0.00	\$66.23
	12/01/2024	\$40.77	\$9.65	\$17.14	\$0.00	\$67.56
	06/01/2025	\$42.16	\$9.65	\$17.14	\$0.00	\$68.95
	12/01/2025	\$43.54	\$9.65	\$17.14	\$0.00	\$70.33
	06/01/2026	\$44.98	\$9.65	\$17.14	\$0.00	\$71.77
	12/01/2026	\$46.42	\$9.65	\$17.14	\$0.00	\$73.21
For apprentice rates see "Apprentice- LABORER (Heavy and Highway)"						
WASTE WATER PUMP OPERATOR OPERATING ENGINEERS LOCAL 4	12/01/2023	\$55.03	\$15.00	\$16.40	\$0.00	\$86.43
	06/01/2024	\$56.33	\$15.00	\$16.40	\$0.00	\$87.73
	12/01/2024	\$57.78	\$15.00	\$16.40	\$0.00	\$89.18
	06/01/2025	\$59.08	\$15.00	\$16.40	\$0.00	\$90.48
	12/01/2025	\$60.53	\$15.00	\$16.40	\$0.00	\$91.93
	06/01/2026	\$61.83	\$15.00	\$16.40	\$0.00	\$93.23
	12/01/2026	\$63.28	\$15.00	\$16.40	\$0.00	\$94.68

Classification	Effective Date	Base Wage	Health	Pension	Supplemental Unemployment	Total Rate
For apprentice rates see "Apprentice- OPERATING ENGINEERS"						
WATER METER INSTALLER	09/01/2023	\$52.55	\$9.90	\$17.42	\$0.00	\$79.87
PLUMBERS LOCAL 4	03/01/2024	\$53.95	\$9.90	\$17.42	\$0.00	\$81.27
	09/01/2024	\$55.35	\$9.90	\$17.42	\$0.00	\$82.67
	03/01/2025	\$56.75	\$9.90	\$17.42	\$0.00	\$84.07
	09/01/2025	\$58.15	\$9.90	\$17.42	\$0.00	\$85.47
	03/01/2026	\$59.55	\$9.90	\$17.42	\$0.00	\$86.87
For apprentice rates see "Apprentice- PLUMBER/PIPEFITTER" or "PLUMBER/GASFITTER"						

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.

TECHINICAL SPECIFICATIONS DIVISION 1 AND DIVISION 2

TECHNICAL SPECIFICATIONS

DIVISION 1

01 11 00	Summary of Work
01 23 00	Alternates
01 26 63	Change Order Procedure
01 29 00	Measurement & Payment
01 31 19	Project Meetings
01 33 00	Submittals
01 41 00	Control of the Work
01 45 00	Quality Control
01 50 00	Temporary Facilities & Controls
01 57 16	Rodent Control
01 71 23	Field Engineering
01 77 00	Project Closeout

DIVISION 2

02 01 00	Existing Trees to Remain
02 27 50	Erosion and Sedimentation Control
02 41 00	Site Preparation and Demolition
03 30 00	Cast in Place Concrete
11 66 00	Athletic Equipment
31 00 00	Earthwork
32 12 16	Bituminous Concrete Paving
32 12 36	Color Coating
32 31 13	Chain Link Fences & Gates
32 92 23	Lawn Restoration

BID DRAWINGS

	Cover Sheet
1 of 2	Existing Conditions Survey
2 of 2	Existing Conditions Survey
L.1	Site Prep & Demolition Plan
L.2	Materials Plan
L.3	Layout Plan
L.4	Grading Plan
L.5	Lawn Restoration Plan
L.6	Details
L.7	Details
L.8	Details
L.9	Details

SECTION 01 11 00

SUMMARY OF WORK

PART 1- GENERAL

1.01 PROJECT DESCRIPTION

- A. The project consists of construction and installation of three (3) outdoor tennis courts and four (4) outdoor pickleball courts at Windle Field, 33 Canal Street, Millbury, MA.

1.02 WORK TO BE DONE

- A. The work of this Contract includes, but is not limited to:
 - 1. Temporary construction controls as indicated on the Drawings, including rodent control.
 - 2. Demolition of elements as shown on the Site Preparation plan, and installation of temporary site controls.
 - 3. Installation of the following items supplied by the Owner:
 - (a) Bituminous concrete pavement for construction of walkways.
 - (b) Bituminous concrete pavement for construction of Pickleball and Tennis Courts.
 - 4. The Contractor shall furnish all materials shown on the Drawings unless they are specifically listed as furnished by the Owner.
 - 5. The work includes but is not necessarily limited to rodent control, site preparation and demolition, earthwork, grading, bituminous concrete paving, line painting and color-coating, chain link fencing and gates, basketball courts, pickleball courts, sodding, and preservation of existing trees to remain.
- B. Coordination with Others
 - 1. The Contractor shall include in his/her bid price the cost for coordinating with the work of Others:
 - (a) The Contractor shall coordinate with J.H. Lynch & Sons, Inc., 18 McCracken Rd, Millbury, MA 01527, (508) 756-6244 on details of scheduling the installation of bituminous concrete paving.
 - (b) The Contractor shall work with J.H. Lynch & Sons, Inc. 18 McCracken Rd, Millbury, MA 01527, (508) 756-6244 to establish

SUMMARY OF WORK

finished grades prior to paving operations.

1.03 CONTRACT TIME

- A. The time for Substantial Completion of the work is as stated in the bidding documents.
- B. The Contractor shall submit shop drawings, data and samples and place his/her orders sufficiently early to permit consideration and approval by the Landscape Architect before materials are necessary for incorporation into the Work. Any delay resulting due to the Contractor's failure to do so shall not be used as a basis of a claim against the Owner.

1.04 CONTRACT DOCUMENTS

- A. The Contract Documents are enumerated in the Agreement, and include these Specifications and the Drawings, for Millbury Public Schools, by Carolyn Cooney & Associates, Landscape Architects, 13 Elm Street, Milford, MA 01757.

1.05 INSPECTION OF THE SITE

- A. It is a requirement of the Contract that the Contractor and his/her subcontractors shall have thoroughly inspected the site during the bidding period. By submitting a bid they confirm that they are thoroughly familiar with the site and all existing conditions which impact and affect their work. Requests for extra compensation will not be considered for any work which could have been foreseen by a visual inspection of the site.

1.06 CONTRACTOR'S USE OF THE SITE

- A. The Contractor shall furnish his/her own toilet facilities on-site.
- B. The Contractor shall take all precautions necessary to protect the abutting properties during construction. Any and all damage caused by construction operations shall be repaired.
- C. The project site shall be kept clean and free from accumulation of waste material and debris.
 - 1. The Contractor, his/her Subcontractors, and their employees shall be respectful and courteous of the neighborhood while working on site.

1.07 TOWN OF MILLBURY NOISE ORDINANCE

- A. The Contractor is advised that the City of Waltham has a Noise Ordinance, Section 10-6, which has the authority to regulate the noise generating activities of this Contract. In general, the Ordinance prohibits excessive noise created by construction, building, remodeling, excavating, land clearing, or by any of the

SUMMARY OF WORK

equipment associated with such work. The Police Department considers the startup or idle running of truck engines and/or equipment prior to 7:00 AM a violation.

1.10 ENCLOSURES

- A. Provide at the earliest practical time temporary enclosure of materials, work in progress and completed portions of the work to provide protection to the work and the employees.

1.11 SAFETY AND SECURITY

- A. The Contractor shall be responsible for the safety and security of those areas of the site where construction is occurring and for the safety of all persons who enter within the Contract Limit Line.
 - 1. The courts shall be closed to the public throughout the duration of construction activity. Gates or other temporary openings in the fencing used to allow construction personnel or equipment access shall be maintained closed at all times to prevent access by the public.
 - 2. The Contractor shall provide signage, in locations as indicated on the Drawings and as described 01500-Temporary Controls & Facilities, indicating the temporary closure of the courts.
 - 3. Safety measures shall include all those actions deemed necessary by the Contractor to ensure the safety of Windle Field users. These shall include but are not necessarily limited to:
 - (a) Temporary fencing at perimeter of the site as indicated on the Drawings.
 - (b) Filling in of all excavations at the end of the workday.
- B. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions & programs in connection with the work. He/she shall promulgate safety regulations and shall notify the Owner of particular hazards.
- C. The Contractor shall erect and maintain, as required by existing conditions and progress of work, all reasonable safeguards for safety and security. This includes the construction of barriers and the posting of danger signs and other warnings against hazards. By these and other necessary methods the Contractor shall stop unauthorized entry within the Contract Limit of Work Line, which for this project is defined by the temporary construction fencing shown on the Drawings.
- D. The Contractor is responsible for provision of additional safeguards not specifically required by the Drawings if these are necessary to protect health and safety.

- E. The Contractor shall cooperate with and maintain a close liaison with Millbury Public Schools, Police Department, and Fire Department, and he/she shall abide by safety or security related requests from any of these authorities.

END OF SECTION

SECTION 01 14 00

CONTROL OF WORK

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.

1.02 EQUIPMENT

- A. The Contractor shall furnish equipment which will be efficient, appropriate, and of sufficient quantity to secure a satisfactory quality of work and a rate of progress which will ensure the completion of the Work within the time stipulated in the Contract Documents. If at any time such equipment appears to the Owner to be inefficient, inappropriate, or insufficient for securing the quality of work required or for producing the rate of progress aforesaid, he may order the Contractor to increase the efficiency, change the character, or increase the equipment and the Contractor shall conform to such order. Failure of the Owner to give such an order shall in no way relieve the Contractor of his obligations to secure the quality of work and rate of progress required. In addition, the Contractor shall maintain his equipment, including mufflers, oil seals or gaskets, and air pollution control devices, in proper working order.

1.03 PROJECT MANAGEMENT

- A. The Work must be completed in a continuous uninterrupted operation. The Contractor must use sufficient labor and equipment to complete all the necessary work requirements within a minimum period of time and as stated in the Contract Documents.
- B. Prior to the start of work, the Contractor shall submit a Progress Schedule in a bar chart form at the preconstruction meeting to the Landscape Architect for completing the Work. See Section 01 33 00 - Submittals of this Specification.
- C. The Contractor is fully responsible for the security and safety of partially completed work until the Project is finally accepted by the Owner and the Landscape Architect.
- D. Hours of work for construction activities are limited to 8:00 AM to 4:00 PM Monday through Friday. Any changes to the work schedule must be authorized by the Landscape Architect and City Officials.
- E. All work areas shall be secured, and materials and equipment shall be removed at the end of each workday.

CONTROL OF THE WORK

- F. The Contractor shall retain on the Project during its progress, a competent full-time representative. This representative shall not be changed except with the consent of the Owner and Landscape Architect. The representative shall be in full charge of the Work and all instructions given to him shall be binding.

1.04 TOWN OF MILLBURY NOISE ORDINANCE

- A. The Contractor is advised that the Town of Millbury has a Noise Ordinance, Section 10-6, which has the authority to regulate the noise generating activities of this Contract. In general, the Ordinance prohibits excessive noise created by construction, building, remodeling, excavating, land clearing, or by any of the equipment associated with such work. The Police Department considers the startup or idle running of truck engines and/or equipment prior to 7:00 AM a violation. Permits to waive the noise ordinance must be approved and issued by the Chief of Police.

1.05 TRAFFIC POLICE

- A. The Contractor shall provide for traffic control by uniformed police officers during all work within Town streets. All bills for police detail must be paid in full by the Contractor. The Contractor will be reimbursed for these payments only after a qualifying bill stamped "Paid" by the Town of Millbury Treasurer's Office is submitted to the Landscape Architect for reimbursement. Payment for special duty police will be made to the Contractor at a dollar for dollar reimbursement. Said price and payment shall be full compensation for furnishing all special duty police.
- B. The rate of payment for any police officer employed by the Contractor shall be at the rate established by the police department providing services for special duty police officers (MGL 149 34B). Payment shall be made by the Contractor within 30 days of billing. Failure to pay an outstanding bill within 30 days may result in a penalty charge to the Contractor for late payment. There will be no reimbursement for any penalties or late charges that may be assessed against the Contractor for late payment. Furthermore, the Landscape Architect will accept no further requests for payment if police detail bills are more than 30 days in arrears.
- C. It is suggested that payments be made in person at the Treasurer's Office and that a photocopy of the bill be presented to the Treasurer's Office at the same time so that it may be stamped "PAID" and then presented to the Landscape Architect by the Contractor as proof of payment.
- D. The Contractor will not be reimbursed for any detail that he fails to cancel when it is not required (inclement weather, change of plans, etc.). Reimbursement shall be made on all qualifying bills stamped "PAID" by the appropriate Treasurer's Office, less any amount for unnecessary details not cancelled by the Contractor and presented to the Landscape Architect. Reimbursement may be entered in the next following request for payment.

CONTROL OF THE WORK

1.06 SITE INVESTIGATION OF EXISTING CONDITIONS

- A. The Contractor acknowledges that he/she has satisfied him/herself as to the conditions existing at the Site of the Work, the type of equipment required to perform the Work, the quality, and the quantity of the materials to be furnished insofar as this information is reasonably ascertainable from an inspection of the Site, as well as from information presented by the Specifications made a part of the Contract. Any failure of the Contractor to acquaint himself/herself with available information will not relieve him from the responsibility for estimating properly the difficulty or cost of successfully performing the Work.
- B. No claim for extra compensation or extension of time will be allowed due to the Contractor's failure to estimate properly the quantities, locations and measurements of all items required to complete the Work.
- C. Report any discrepancies to the Landscape Architect and request her/his interpretation.

1.07 PROTECTION OF WORK AREA

- A. The Contractor shall secure all work areas by 4:00 PM each workday.
- B. All of the Contractor's equipment, supplies, etc. left on-site shall be secured daily. In no case will the Owner assume responsibility for damage or loss of materials, tools or equipment left on-site.
- C. The Contractor shall take precautions to prevent injury to the public due to open excavations or excavated materials. All trenches, excavated materials, equipment, or other obstacles which could be dangerous to the public shall be secured in an agreed upon staging area.

1.08 LAWS AND REGULATIONS

- A. The Contractor shall keep himself fully informed of all State and Federal laws and Municipal ordinances and regulations in any manner affecting those engaged or employed in the Work, or the materials used in the Work, or in any way affecting the conduct of the Work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same.
- B. If any discrepancy or inconsistency is discovered in the Plans, Specifications, or Contract for the Work in relation to any such laws, ordinances, regulations, orders or decrees, the Contractor shall forthwith report the same to the Landscape Architect in writing. He/she shall at all times himself/herself observe and comply with, and shall cause all his/her agents and employees to observe and comply with all such laws, ordinances, regulations, orders, and decrees, and shall protect and indemnify the Owner and its officers, agents and servants against any claim or liability arising from or based on the violation of any such laws, ordinances, regulations, and orders or decrees, whether by himself/herself or his/her

CONTROL OF THE WORK

employees or subcontractors.

1.09 PERMITS AND CODES

- A. Under this Contract, all work shall be as shown in the Contract Drawings and Specifications and shall comply with applicable codes and regulations at the local, county, state, and federal levels. All labor, materials, equipment, and services necessary to make the Work comply with such requirements shall be provided without additional cost to the Owner.
- B. Do not close any street, sidewalk, alley, or passageway. Conduct operations as to interfere as little as possible with the use ordinarily made of roads, driveways, alleys, sidewalks, or other facilities near enough to the Work to be affected thereby.
- C. Where code references are given, the latest issue of that Code in effect at the time of bidding shall be used. Code references are given to indicate the minimum quality and performance acceptable. Where Specifications and/or Contract Drawings indicate more stringent requirements, the Specifications or Contract Drawings shall govern.
- D. The Contractor, under this Contract shall be responsible for providing and filing all Plans, Specifications, and other documents, pay all requisite fees and secure all permits, inspections and approvals necessary for legal installation and operation of the systems and or equipment furnished under this Contract, except as otherwise specified.
 - 1. Fees for Town of Millbury permits will be waived by the Town.
- E. Comply also with applicable provisions of American National Standard Code for Building Construction ANSI A10.6.

1.10 INSPECTION AND TESTS

- A. Testing shall be as specified in Section 01 45 00-Quality Control.
- B. All material and workmanship shall be subject to inspection and examination by the Landscape Architect at any and all times during construction.
- C. All work that is unsatisfactory or fails to comply with the Specifications in the opinion of the Landscape Architect or City Officials, shall be corrected by the Contractor at his own expense to the satisfaction of the Landscape Architect.

1.11 SANITARY REGULATIONS

- A. The Contractor shall provide adequate sanitary facilities for the use of those employed on the Work. Such facilities shall be made available when the first employees arrive on the Site of the Work, shall be properly secluded from public

CONTROL OF THE WORK

01 14 00-4

observation, and shall be constructed and maintained during the progress of the Work.

- B. The Contractor shall maintain the sanitary facilities in a satisfactory and sanitary condition at all times and shall enforce their use. He/she shall vigorously prohibit the committing of nuisance on the Site of the Work, on lands of the Owner, or an adjacent property.

1.12 COORDINATION AND RECEIPT OF OWNER FURNISHED MATERIALS

- A. The Contractor shall coordinate with the Owner concerning the scheduling and delivery of Owner furnished items and as follows:
 - 1. Upon receipt of the Notice to Proceed, the Contractor shall provide the Owner with their contact information and address for delivery. Subsequently, the Owner will provide this information to the Supplier, after which the Contractor shall assume complete responsibility for coordinating with the Supplier.
 - 2. The Contractor shall be responsible for scheduling, receipt and inspection of all Owner furnished items from the time of installation.
 - 3. The Contractor shall be responsible for addressing any deficiencies in the installation with the supplier to obtain the specified installation.
 - 4. The Owner assumes no responsibility for communicating with the supplier concerning damaged, missing, or incorrect installation.

1.13 COORDINATION WITH UTILITIES

- A. The Contractor shall coordinate his/her Work with the utility companies to prevent damages or disruption to existing equipment and to coordinate new utility installations. The Contractor shall contact the utility companies owning underground equipment in the area of his work prior to commencing excavation. Contact with the utility companies shall be made sufficiently in advance so they can properly locate their equipment.
- B. The contractor shall be responsible for locating all site items such as utilities which could be affected by this Contract prior to the start of construction. The Contractor shall contact Dig-Safe (1-888-344-7233) prior to the start of construction and obtain a Certificate verifying that the location work has been completed. Contact the City of Waltham Engineer to verify the location of additional on-site utilities. Contact telephone and communications companies to verify location of cables.
- C. All right-of-way and site utilities (water, sewer, drainage) shall be inspected and approved by the Town's Engineering Office.
- D. Site information: No representations are made indicating subsurface conditions. It

CONTROL OF THE WORK

is expressly understood that the Owner/Landscape Architect will not be responsible for interpretations or conclusions drawn therefrom by the Contractor.

1.14 FIRE PROTECTION

- A. Gasoline and other flammable liquids shall not be stored on site. Dispense from a UL listed safety containers in conformance with the National Board of Fire Underwriters recommendations. Do not store flammables near buildings.

1.15 CLEANUP

- A. During the course of the Work, the Contractor shall keep the Site in as clean and neat a condition as possible. He/she shall dispose of all residues resulting from the work. At the conclusion of the day's work, the Contractor shall leave the entire site in a neat and orderly condition.

END OF SECTION

SECTION 01 23 00

ALTERNATES

PART 1- GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Drawings, all of which apply to the work of this section.

1.02 ALTERNATES

- A. General Bidders shall insert in the space provided on the bid form the amount to be added to their respective Base Bids for the following Alternates. Each proposal amount shall include the entire cost of the alternate portion of the work including overhead, profit, and other costs to provide the alternate complete-in-place, including the cost of interfacing, and coordinating the alternate with related and adjacent work. All work shall be done in conformance with the relevant plans, specifications, and details. The following Alternates are ADD ALTERNATES, which if accepted by the Owner, shall directly increase the Contractor's base bid contract price.

ADD ALTERNATE NO. 1:

Price for Add Alternate No. 1 shall include furnishing and installing bituminous concrete paved pad for portable toilet facility as shown on the Drawings and Specified in Section 32 12 16 – Bituminous Concrete Paving complete-in-place, including base course as Specified in Section 31 00 00 Earthwork.

END OF SECTION

SECTION 01 26 63

CHANGE ORDER PROCEDURE

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.

1.02 SCOPE OF WORK

- A. Work included: Make such changes in the Work, in the Contract Sum, in the Contract Time of Completion, or any combination thereof, as are described in written Change Orders signed by the Owner and issued after execution of the Contract, in accordance with the provisions of this Section.

1.03 SUBMITTALS

- A. Make submittals directly to the Landscape Architect at the address shown on the Project Manual.
- B. Prepare in accordance with the standard AIA Document G701 change order form.

1.04 PRODUCT HANDLING

- A. Maintain a "Register of Proposal Requests and Change Orders" at the job Site, accurately reflecting current status of all pertinent data.
- B. Make the Register available to the Landscape Architect/Engineer for review at his/her request.

1.05 CHANGES INITIATED BY THE OWNER

- A. Should the Town contemplate making a change in the Work or a change in the Contract Time of Completion, the Landscape Architect will issue a "Proposal Request" to the Contractor.
 - 1. Proposal Requests will be dated and will be numbered in sequence.
 - 2. The Proposal Request will describe the contemplated change, and will carry one of the following instructions to the Contractor:
 - (a) Make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion.
 - (b) Make the described change in the Work, credit, or cost for which will be determined.

1.06 CHANGES INITIATED BY THE CONTRACTOR

CHANGE ORDER PROCEDURE

- A. Should the Contractor discover a discrepancy among the Contract Documents, a concealed condition, or other cause for suggesting a change in the Work, a change in the Contract Sum, or a change in the Contract Time of Completion, he shall notify the Landscape Architect.
- B. Upon agreement by the Landscape Architect that there is reasonable cause to consider the Contractor's proposed change, the Landscape Architect will issue a Proposal Request in accordance with the provisions described in Article 1.05 above.

1.07 PROCESSING PROPOSAL REQUESTS

- A. In response to each Request for Proposal, the Contractor shall:
 - 1. Submit to the Landscape Architect for review one copy of completed Change Order Form.
 - 2. Meet with the Landscape Architect as required to explain costs and, when appropriate, to determine other acceptable ways to achieve the desired objective.
 - 3. Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the Owner's cost for making the change, advising the Landscape Architect in writing when such avoidance no longer is practicable.
- B. Upon the signature of the Chief Procurement Officer and the City Auditor, the Landscape Architect will issue a "Change Order" to the Contractor.

1.08 CHANGE ORDERS

- A. Change Orders will be dated and will be numbered in sequence.
- B. The Change Order will describe the change or changes and will refer to the Proposal Request(s) involved.
- C. The Landscape Architect will issue four copies of each Change Order to the Contractor.
 - 1. The Contractor shall promptly sign all four copies and transmit all four copies to the Owner for processing.

END OF SECTION

SECTION 01 29 00

MEASUREMENT AND PAYMENT

PART 1- GENERAL

1.01 BID PRICE

A. Measurement & Payment

1. Payment for construction of Improvements to Windle Field Tennis-Pickleball Courts Project will be on a lump-sum basis.
2. Payment of the lump-sum price under the Base Bid of the Proposal will fully compensate the Contractor for furnishing all labor, materials, equipment, and incidentals required for work described in Section 01 11 00, Summary of Work of this Specification.

1.02 PAYMENT PROCEDURES

- A. Contractor shall submit substantiated monthly estimates for progress payments. The period covered by each Application for Payment shall be one (1) calendar month ending on the last day of the month.
- B. Payment will be made in accordance with the requirements of Section 39K, M.G.L.
- C. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
 1. List of subcontractors.
 2. Schedule of Values.
 3. Contractor's Construction Schedule (preliminary if not final).
 4. Products list.
 5. Submittals Schedule (preliminary if not final).
 6. Copies of permits.
 7. Initial progress report.
 8. Certificates of insurance and insurance policies.
- D. Refer to Section 01 77 00 - Project Close-out for additional requirements for payments at Substantial Completion and Final Completion.

1.03 ADDITIONAL WORK

- A. Additional Work, if any, shall be performed at a mutually satisfactory price agreed upon between the Contractor and the Owner through the process described in Section 01 26 63 - Change Order Procedure.

MEASUREMENT & PAYMENT

END OF SECTION

MEASUREMENT & PAYMENT
01 29 00-2

SECTION 01 31 19

PROJECT MEETINGS

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Documents, all of which apply to work of this section.

1.02 SCOPE OF WORK

- A. Attend project meetings to enable orderly review during progress of the Work, and to provide for systematic discussion of problems, as long as deemed necessary by the Landscape Architect throughout the construction period.
- B. The Contractor's relations with his subcontractors and material suppliers, and discussion relative thereto, are the Contractor's responsibility and normally are not part of Project Meetings content.

1.03 QUALITY ASSURANCE

- A. For those persons designated by the Contractor to attend and participate in Project Meetings, provide required authority to commit the Contractor to solutions agreed upon in the Project Meetings.

1.04 MEETING NOTES

- A. The Landscape Architect will compile minutes of each Project Meeting and furnish copies to the attendees, Contractor, and Owner before the next scheduled meeting.

PART 2 - NOT USED

PART 3 - EXECUTION

3.01 PRECONSTRUCTION MEETING

- A. The Contractor shall arrange for a Preconstruction Meeting within 5 days after the award of contract, prior to commencing any work on site, in order to coordinate between him/herself, his/her Subcontractors, the Owner, and the Landscape Architect the procedures to be followed on the project.
- B. Contractor is to coordinate attendance by authorized representatives of the Owner, the Contractor, site work subcontractors, and the Landscape Architect. and Authorized representatives of the Owner as determined by the Town of Millbury, and, Mr. Richard G. Bedard, Jr., Assistant Superintendent of Finance and

PROJECT MEETINGS

Operations, Millbury Public Schools, 12 Martin Street, Millbury, MA 01527.

- C. Minimum agenda: Data will be distributed and discussed on at least the following items:
1. Organizational arrangement of Contractor's forces and personnel, and those of subcontractors, materials suppliers, and Owner.
 2. Channels and procedures for communication.
 3. Construction schedule, including sequence of critical work.
 4. Contract Documents and revisions.
 5. Processing of Shop Drawings and other data submitted to the Owner for review, including the process for reviewing water, sewer and drainage submittals.
 6. Processing of Bulletins, field decisions, and Change Orders.
 7. Procedures for safety, first aid, security, quality control, housekeeping, and related matters.
 8. Submittal of Construction Fence layout.
 9. Submittal of Progress Schedule, Tabulation of Submittals and Schedule of Values.

3.02 PROJECT MEETINGS

- A. Frequency: Project Meeting shall in general be held at regular intervals not less frequently than bi-weekly. Meetings will be chaired by the Landscape Architect.
- B. Location: Project meetings will be held at the job site.
- C. Attendance:
1. To the maximum extent practicable, assign the same person or persons to represent the Contractor at Project Meetings throughout the progress of the work.
 2. Sitework subcontractors, material suppliers, and others may be invited to attend those Project Meetings in which their aspect of the Work is involved.
- D. Minimum Agenda:
1. Review progress of the Work since last meetings, including status of submittals for approval.
 2. Identify problems which impede planned progress.
 3. Develop corrective measures and procedures to regain planned schedule.
 4. Complete other current business.

PROJECT MEETINGS

01 31 19-2

E. Revision to Minutes:

1. Unless published minutes are challenged in writing prior to the next regularly scheduled Project Meeting, they will be accepted as properly stating the activities and decisions of the meeting.
2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
3. Challenge to minutes shall be settled at the start of the next regularly scheduled meeting.

END OF SECTION

SECTION 01 33 00

SUBMITTALS

PART 1- GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.
- B. Consult the individual Sections of the Specifications for the specific submittals required under those sections and for further details and descriptions of the requirements.

1.02 SCOPE OF WORK

- A. The scope of the work under this Specification section, without limiting the generality thereof, includes the furnishing of all labor material, equipment, services, and incidentals necessary to complete all the work in accordance with the contract documents, which are intended to describe and provide for a finished piece of work.
- B. The type of work includes the following without limiting the generality thereof:
 - 1. Progress Schedules.
 - 2. Schedule of Values.
 - 3. Shop drawings.
 - 4. Product Data.
 - 5. Samples.

1.03 QUALITY ASSURANCE

- A. Coordination of submittals:
 - 1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
 - 2. Verify that each item and the associated submittal conform in all respects with the specified requirements.
 - 3. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.
- B. Timeliness - The Contractor shall transmit each submittal to the Landscape Architect well in advance of performing related Work or other applicable activities, so that the installation shall not be delayed by processing times, including disapproval and re-submittal (if required), coordination with other

SUBMITTALS

01 33 00-1

submittals, testing, purchasing, fabrication, delivery, and similar sequenced activities. **Items with long lead times for orders need to be submitted immediately.** No extension of time will be authorized because of the Contractor's failure to transmit submittals to the Landscape Architect in advance of the Work.

1. Sequence - The Contractor shall transmit each submittal in a sequence which will not result in the approval having to be later modified or rescinded by reason of subsequent submittals which should have been processed earlier or concurrently for coordination.
- C. Contractor's Review and Approval - Only submittals received from and bearing the stamp of approval of the Contractor will be considered for review by the Landscape Architect. Submittals shall be accompanied by a transmittal notice stating name of Project, date of submittal, "To" or "From" (Contractor, Subcontractor, Installer, Manufacturer, Supplier), Specification Section or Drawing No. to which the submittal refers, purpose (first submittal, re-submittal), description, remarks, distribution record, and signature of transmitter.
- D. "Or-Equals", "or equal as approved" or "or approved equal" - On the transmittal, or on a separate sheet attached to the transmittal, the Contractor shall direct attention to any deviations including minor limitations and variations, from the Contract Documents. Do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this Work by the Owner.
1. The Contractor and all Subcontractors shall submit to the Landscape Architect for consideration of any Or-Equal substitution, a written point by point comparison containing the name and full particulars of the proposed product to the product named or described in the Contract Documents.
 2. Such submittal shall in no event be made later than 30 calendar days prior to the incorporation of the item into the Work. In any case in which the time period specified in the Contract Documents from the Notice to Proceed to Substantial Completion is less than 30 days, this requirement can be waived by the Landscape Architect.
 3. Upon receipt of a written request for approval of an Or-Equal substitution, the Landscape Architect shall investigate whether the proposed item shall be considered equal to the item named or described in the Contract Documents. Upon conclusion of the investigation, the Landscape Architect shall promptly advise that the item is, or is not, considered acceptable as an Or-Equal substitution. Such written notice must have the concurrence of the Owner.
 4. In no case may an item be furnished on the Work other than the item

named or described, unless the Landscape Architect, with the Authority's concurrence, shall consider the item equal to the item so named or described, as provided by M.G.L. c.30 § 39M.

5. The equality of items offered as "equal" to items named or described shall be proved to the satisfaction of the Landscape Architect at the expense of the Contractor or Subcontractor submitting the substitution.
 6. The Landscape Architect and/or the Authority may require that full size samples of both the specified and proposed products be submitted for review and evaluation. The Contractor or Subcontractor, as the case may be, shall bear full cost for providing, delivering, and disposal of all such samples.
 7. The Contractor or Subcontractor, as the case may be, shall assume full responsibility for the performance of any item submitted as an "Or-Equal" and assume the costs of any changes in any Work which may be due to such substitution.
- E. Processing - All costs for printing, preparing, packaging, submitting, resubmitting, handling, inspecting and mailing, or delivering submittals required by this contract shall be included in the Contract Sum.
- F. Unless otherwise indicated on the Contract Drawings, or specified, only new materials and equipment shall be incorporated into the Work. All materials and equipment furnished by the Contractor shall be subject to the inspection and approval of the Owner. No materials shall be delivered to the work without prior approval of the Owner.
- G. Contractor represents that he has determined and verified all materials, field measurements, and field construction criteria related thereto, or will do so, and that he has checked and coordinated the information contained within such submittals with the requirements of the contract documents.
- H. The inspection and approval by the Landscape Architect of shop drawings, product data, and samples is general and does not relieve the Contractor from responsibility for compliance with the requirements of the Contract or for proper dimensions, fitting, construction, and construction sequencing.
- I. The Contractor or Subcontractors shall not be relieved of responsibility for any deviation from the Contract Drawings or Specifications unless the Contractor has specifically informed the Landscape Architect in writing of such deviation, and the Landscape Architect has given specific written approval thereof.
- J. The Contractor shall submit to the Landscape Architect data relating to materials and equipment he proposes to furnish for the Work. Such data shall be in sufficient detail to enable the Landscape Architect to identify the particular product and to form an opinion as to its conformity to the Specifications.

SUBMITTALS

01 33 00-3

Submittals shall, at minimum, include the following:

1. Name of Manufacturer.
2. Dimensional requirements for the material.
3. Class and/or type of material.
4. Strength requirements for the material.
5. Sieve analysis of fill materials.
6. And any other information that is required in determining conformance of the submittal with the Specifications or the Contract Drawings.

1.04 LANDSCAPE ARCHITECT'S ACTION

- A. The Landscape Architect will review the Contractor's submittals and return them with one of the following actions recorded thereon by appropriate markings:
1. Final Unrestricted Release: Where marked "Approved" the Work covered by the submittal may proceed provided it complies with the requirements of the Contract Documents.
 2. Final-But-Restricted Release: When marked "Approved as Noted" the Work may proceed provided it complies with the Landscape Architect's notations or corrections on the submittal and complies with the requirements of the Contract Documents. Acceptance of the Work will depend upon these compliances.
 3. Returned for Resubmittal: When marked "Revise & Resubmit" or "Disapproved", the Work covered by the submittal (purchasing, fabrication, delivery, or other activity) should not proceed. The submittal should be revised, or a new submittal resubmitted without delay, in accordance with the Landscape Architect's notations stating the reasons for returning the submittal.

1.05 PROGRESS SCHEDULES

- A. At the Preconstruction Meeting, the Contractor shall submit a progress schedule in bar chart form. Indicate a time bar for each major category or unit of work to be performed, properly sequenced and coordinated with other elements of the work.
- B. With the progress schedule, submit a tabulation of all submittals which will clearly show: the submittal name and section, date to Landscape Architect for review, date required back to Contractor to maintain the orderly progress of the work, and those submittals required early because of long lead time for ordering, manufacturer, or fabrication. The Contractor shall submit shop drawings, data and samples or place his/her order sufficiently early to permit consideration and approval by the Landscape Architect before materials are necessary for incorporation into the Work. Any delay resulting from the Contractor's failure to do so shall not be used as a basis of a claim against the Owner.

SUBMITTALS

01 33 00-4

- C. Monthly, as the job progresses, submit updates of the original progress schedule to show actual progress on the job and any revisions to the projected completion date.

1.06 SCHEDULE OF VALUES

- A. With the progress schedule, submit a schedule of values on an AIA “Request for Payment” form which breaks down the contract price by specification sections. This schedule of values shall be in reasonable correspondence with the Contractor’s actual costs for each Subcontract or trade, and it shall serve as the basis for the evaluation and approval of monthly requests for Payment as they are submitted.

1.07 SHOP DRAWINGS

- A. Shop drawings shall be complete. Give all information necessary or requested in the individual section of the specifications. They shall also show adjoining Work and details of connection thereto.
- B. Shop drawings shall be for whole systems. Partial submissions will not be accepted.
- C. The Landscape Architect reserves the right to review and approve shop drawings only after approval of related product data and samples.
- D. Shop drawings shall be properly identified and contain the name of the project, name of the firm submitting the shop drawings, shop drawing number, date of shop drawings and revisions, Contractor’s stamp of approval, and sufficient spaces near the title block for the Landscape Architect’s stamp.
- E. The Contractor shall submit to the Landscape Architect one legible original and two copies of each shop drawing. Transparency and prints shall be mailed, emailed, or delivered in roll form. Each submittal shall be accompanied by a transmittal notice.
- F. When the original is returned by the Landscape Architect with the stamp “Revise and Resubmit” or “Disapproved”, the Contractor shall correct the original drawing or prepare a new drawing and resubmit the original and two copies thereof to the Landscape Architect for approval. This procedure shall be repeated until the Landscape Architect’s approval is obtained.
- G. When the original is returned by the Landscape Architect with the stamp “Approved” or “Approved as Corrected”, the Contractor shall provide and distribute the copies for all Contractor and Subcontractors use, and in addition submit, within 10 calendar days after approval, 3 prints to the Landscape Architect.
- H. The Contractor shall maintain one full set of approved shop drawings at the site.

SUBMITTALS

01 33 00-5

1.08 SUBMISSION OF PRODUCT DATA

- A. The Contractor shall submit 6 copies of Product Data to the Landscape Architect. All such data shall be specific and identification of material or equipment submitted shall be clearly marked in ink. Data of general nature will not be accepted.
- B. Product Data shall be accompanied by a transmittal notice. The Contractor's stamp of approval shall appear on the printed information itself, in a location which will not mar legibility.
- C. Product Data returned by the Landscape Architect as "Disapproved" shall be resubmitted in 6 copies until the Landscape Architects approval is obtained.
- D. When the Product Data is acceptable, the Landscape Architect will stamp them "Approved" or "Approved as Corrected," retain 3 copies, and return 4 copies to the Contractor. The Contractor shall provide and distribute additional copies as may be required to complete the Work.
- E. The Contractor shall maintain one full set of approved, original, Product Data at the site.

1.09 SUBMISSION OF SAMPLES

- A. Unless otherwise specified in the individual section, the Contractor shall submit two specimens of each sample.
- B. Samples shall be of adequate size to permit proper evaluation of materials. Where variations in color or in other characteristics are to be expected, samples shall show the maximum range of variation. Materials exceeding the variation of approved samples will not be approved in the Work.
- C. Samples which can be conveniently mailed shall be sent directly to the Landscape Architect, accompanied by a transmittal notice. All transmittals shall be stamped with the Contractor's approval stamp of the material submitted.
- D. All other samples shall be delivered to the project site with sample identification tag attached and properly filled in. Transmittal notice of samples so delivered with the Contractor's stamp of approval shall be mailed to the Landscape Architect.
- E. If a sample is rejected by the Landscape Architect, a new sample shall be resubmitted in a manner specified hereinabove. This procedure shall be repeated until the sample is approved by the Landscape Architect.
- F. Samples will not be returned unless return is requested at the time of submission. The right is reserved to require submission of samples whether or not particular mention is made in the Specifications.

SUBMITTALS

01 33 00-6

END OF SECTION

SUBMITTALS
01 33 00-7

SECTION 01 45 00

QUALITY CONTROL

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Drawings, all of which apply to this section.

1.02 SCOPE OF WORK

- A. The scope of the work under this Specification section, without limiting the generality thereof, includes the furnishing of all labor, materials, equipment, services, and incidentals necessary to complete all of the work in accordance with the Contract Documents, which are intended to describe and provide for a finished piece of work.
- B. The work includes the following, without limiting the generality thereof.
 - 1. The Contractor shall make available to the Owner's testing laboratory any samples or specimens which the laboratory may require to perform quality control testing on concrete, fill materials, or other material as the Owner may elect to provide additional testing for.
 - 2. The coordinating and scheduling of work and the giving of timely notice so as to afford the Owner's testing laboratory the opportunity to take samples and make observations or tests.

1.03 TESTING LABORATORY

- A. The Contractor is responsible for the costs of tests specifically required in the technical specifications.
- B. The Owner may select, engage, and pay for the services of an independent testing laboratory to provide additional testing as the Landscape Architect/Engineer may deem appropriate.
- C. Test and retesting of materials which fail the original test shall be paid for by the Contractor.

END OF SECTION

SECTION 01 50 00

TEMPORARY FACILITIES & CONTROLS

PART 1- GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.

1.02 SCOPE OF WORK

- A. The scope of the work under this Specification section, without limiting the generality thereof, includes the furnishing of all labor, materials, equipment, services, and incidentals necessary to complete all of the work in accordance with the Contract Documents, which are intended to describe and provide for a finished piece of work.
- B. The work includes the following, without limiting the generality thereof;
 - 1. Temporary utilities.
 - 2. Field equipment.
 - 3. Barriers and enclosures.
 - 4. Safety and security.
 - 5. Signage.

1.03 TEMPORARY UTILITIES

- A. The Contractor is responsible for all temporary electrical distribution, lighting, and water distribution from existing sources.
- B. The Contractor shall provide and pay for his own temporary telephone service within the Contract Limit Line.
- C. The provision for temporary toilets is included under Section 01 11 00 - Summary of Work.

1.04 FIELD EQUIPMENT

- A. The Contractor shall provide a transit, rod, and level on site for checking layouts and installations.

1.05 TRAFFIC CONTROL

- A. Traffic police will be required for operations within City streets. Refer to Section 01 41 00 - Control of the Work, Section 1.05 for police requirements and cost.

1.06 BARRIERS AND ENCLOSURES

TEMPORARY FACILITIES & CONTROLS

01 50 00-1

- A. The Contractor shall provide and maintain sufficient fencing and warning signs around the work area to limit unauthorized entry within the Contract Limit Line.
- B. At the earliest practical time provide temporary enclosure of materials, equipment, work in progress and completed portions of the work to provide protection to the work and employees.

1.07 SAFETY AND SECURITY

- A. The Contractor shall be responsible for the safety and security of the site within the Contract Limit Line, and for the safety of all persons who enter within the Contract Limit Line.
 - 1. Gates or other temporary openings in the fencing used to allow construction personnel or equipment access shall be maintained closed at all times to prevent access by the public.
- B. The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the work.
- C. The Contractor shall erect and maintain, as required by existing conditions and progress of the work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations, and notifying the Owner of particular hazards.
 - 1. Provide and install on the temporary fencing two (2) signs indicating temporary closure of the courts, as described in Section 1.08 below.
- D. The Contractor shall cooperate with and maintain a close liaison with the Police Department and Fire Departments, and he shall abide by safety-related requests from any of these agencies.

1.08 CLOSURE SIGNS

- A. The three signs indicating temporary closing of the courts shall be 24" x 36" minimum and shall contain the words "The Courts are Closed During Construction for Your Safety. Do Not Enter. Thank You for Your Cooperation, Millbury Public Schools".
- B. Signs shall be of durable, exterior grade PVC Board or 3MM Diabon, green text on white background securely mounted on posts or on fencing.

END OF SECTION

SECTION 01 57 16

RODENT CONTROL

PART 1 - GENERAL

1.01 SUMMARY

- A. This section specifies rodent control and general pest control requirements within project areas, and bordering areas as designated by the Landscape Architect. This work is to be performed prior to demolition, excavation, and site preparation and throughout the Contract, so that rodents (rats, and mice) and other pests do not disperse from or infest the project area.
- B. The Contractor shall develop and implement an Integrated Pest Management (IPM) approach. As part of that approach, the Contractor shall maintain a cooperative dialogue with appropriate agencies and management/representatives of neighboring properties.
- C. The Contractor shall perform the rodent control tasks described in this Scope of Work and also respond to other pest control needs when directed by the Owner.

1.02 SUBMITTALS

- A. Submit to the Owner copies of pesticide applicator certifications and licenses within ten (10) days of their issuance or renewal for the duration of this Contract.
- B. After performing the survey described in 3.01 and before initiating baiting, submit to the Landscape Architect a written description of proposed pest control procedures, indicating materials, quantities, methods, and time schedule. For all pesticides to be used, submit a copy of the pesticide manufacturer's EPA-approved pesticide label with application directions.
- C. Submit to the Owner documentation of pest control activities and results and follows:
 - 1. Weekly - Submit data sheets with locations of sites treated, amounts and types of pesticide used, number and types of traps set, survey and inspection results, sanitation conditions, complaint calls investigated, and any problem that occurred.
 - 2. Monthly - Submit a written summary that includes determinable results of the IPM program and recommendations.
 - 3. Quarterly - Submit a map that shows bait stations where rodent baits are being maintained.

1.03 QUALIFICATIONS

RODENT CONTROL

01 57 16-1

- A. The Contractor shall perform this work at all times in accordance with the following minimum standards and as acceptable to the Owner:
 - 1. The Contractor and key personnel shall have experience with commercial and residential accounts and construction projects; have experience and technical training in vertebrate pest management and integrated pest management; have experience with various rodent control techniques, equipment, and strategies; have training and experience with insect control; and have knowledge of and experience with techniques to reduce non-target hazards.
 - 2. The supervisor shall be licensed and certified by the Massachusetts Pesticide Bureau and certified in General Pest Control (category 41) and Vertebrate Pest Control (category 44). The supervisor shall have specific training and experience in vertebrate pest management, commercial rodent control, general pest control, and integrated pest management.
 - 3. Applicators shall be licensed by the Massachusetts Pesticide Bureau and certified in General Pest Control (category 41). Applicators shall have specific training and experience in commercial rodent control and integrated pest management.

1.04 COORDINATION

- A. Perform this Work in cooperation with the other Work performed under the Contract.
- B. Initiate the work on or before field mobilization begins for the Contract and with adequate timing to achieve control before environmental disruptions. Provide a maintenance program until Contract is completed and all equipment and materials are removed.
- C. Perform this work in such a manner that toxicants or other control tools do not pose a hazard to persons, domestic animals, or non-target wildlife.

1.05 PERMITS

- A. Obtain and maintain in coordination with the Contractor appropriate permit(s) from city or state agencies for pest control activities associated with this Work.
- B. Obtain and maintain in coordination with the Contractor all right of entry permits required for the performance of this Work. This includes all utilities and private properties to which entrance is required.

PART 2 - PRODUCTS

2.01 PRODUCTS

- A. Furnish and use only pesticide formulations registered by the U.S. Environmental Protection Agency (EPA) and the Massachusetts Department of Food and Agriculture, where appropriate according to label directions and as acceptable to the Landscape Architect.
- B. Furnish and use devices and supplies (e.g., traps and bait stations) to facilitate the management and effectiveness of the pest control program, where appropriate and as acceptable to the Landscape Architect.

PART 3 – EXECUTION

3.01 SURVEY

- A. Prior to baiting, survey the proposed construction area and accessible or observable bordering areas designated on the plans and record signs of rodent activity and sanitation conditions. Closely inspect all embankments, edge areas, and properties within and abutting the construction area. Maintain survey records in the manner described in 3.06.
- B. Thoroughly inspect the construction area and accessible or observable bordering areas and any nearby areas for rodent activity and sanitation deficiencies weekly throughout the duration of this Contract and in accordance with the work schedule. Maintain inspection records in the manner described in 3.06.
- C. Plan the control program and allocate resources based on survey and inspection data and as acceptable to the Owner. Pest control areas designated on the Plans are approximate and the Contractor shall extend services beyond those areas as required based on survey and inspection data.

3.02 APPLICATION FOR RODENT CONTROL

- A. Apply rodenticide in strict accordance with EPA-approved label directions and the Rules and Regulations of the Massachusetts Department of Food and Agriculture. Maintain records of all bait placements in the manner described in 3.06.
- B. Where appropriate, especially for surface placements of rodent baits, use properly secured and tamper-resistant bait stations consistent with EPA regulation. Individually number and properly identify all bait stations.

3.03 SURFACE APPLICATIONS

- A. Initial Surface Baiting
 - 1. Rid the construction area of all detectable rodents before construction begins, or as acceptable to the Owner. Bait all observable rodent burrows. Install and secure bait stations at regular and appropriate intervals and locations, and document rodent activity (burrows, droppings, bait consumed, dead rodents). Replenish bait and shift bait stations as

necessary to ensure complete control of rodent populations. Bait edge and accessible bordering areas designated on the Plans as necessary to ensure that rodents will not be dispersed by construction activities and that rodents will not infest work areas.

3.04 MAINTENANCE SURFACE BAITING

- A. Establish a maintenance baiting program prior to mobilization by the Contractor, including construction areas and accessible bordering areas designated on the plans, as acceptable to the Owner. Check bait placements weekly. Use survey and baiting data to determine the most effective distribution of baiting locations and bait quantities. Shift and distribute bait and bait stations as appropriate to ensure continued control.

3.05 CLEAN-UP

- A. Remove visible rodent carcasses and dispose of them daily consistent with the pesticide label directions and applicable codes, laws, and regulations.
- B. Upon completion of any pest control operations at the site, remove remaining bait and dispose of it according to the pesticide label and applicable codes, laws, and regulations. Also remove all wires used for subsurface baiting and any bait stations or traps.

3.06 SANITATION

- A. Prior to construction and throughout the duration of this Contract, identify and document harborage and food sources available to rodents on the construction site and in observable bordering areas designated on the Plans. This includes any littering or improper or insufficient use of trash receptacles in construction areas. It also includes any bordering areas with sanitation conditions or structural deficiencies that violate City or State sanitation codes.
 - 1. Maintain records of sanitation conditions in the manner described in 3.06.

3.07 COMPLAINT CALLS

- A. During construction, respond to pest-related complaints from the "adjacent" neighborhood i.e. within 200 feet of the project limits, within 12 hours when directed by the Owner. Inspect the premises and adjacent areas for sanitation and structural deficiencies and also signs of historic and recent pest activity. Discuss providing sanitation and structural maintenance information to the adjacent property with the Owner prior to placing bait and traps. Use pesticides or traps as necessary and appropriate to resolve the complaint when there is a relationship between the pest infestation and construction activities, or when directed by the Landscape Architect and/or Owner.

- B. Maintain records of all complaints investigated, including location, contact person, inspection results, and actions taken. Document the relatedness of the pest infestation to construction activities.

3.08 GENERAL PEST CONTROL

- A. When directed by the Landscape Architect, the Contractor shall determine appropriate methods for any pest control task not specifically identified above and shall submit them in writing to the Landscape Architect for approval in advance. Such pest control tasks would relate to unanticipated pest control needs within construction areas or adjacent areas. This could include control of insects or vertebrates other than rats and mice.
- B. Maintain records of general pest control activities and results in the manner described in 3.06.

3.09 RECORD KEEPING

- A. Use standardized data sheets acceptable to the Owner to maintain accurate records of date, placement, type, and amount of pesticides or other control tools (e.g., traps) applied. Similarly, maintain records of surveys, inspections, changes in pest activity, sanitation conditions, and complaint calls. Submit data in a format acceptable to the Landscape Architect and as required.

END OF SECTION

SECTION 01 71 23

FIELD ENGINEERING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.
- B. Examine and coordinate all Contract Drawings and other sections of the Specifications for requirements which affect work of this section whether or not such work is specifically mentioned in this section. Coordinate work with other trades to assure the steady progress of all work under the Contract.

1.02 SCOPE OF WORK

- A. The Work under this Section consists of, but is not limited to:
 - 1. Field staking the horizontal and vertical alignment of site improvements.

PART 2 - MATERIALS

2.01 LAYOUT AND STAKING

- A. The Contractor shall be responsible for furnishing all stakes, pins, and grade markings as required to implement the work of layout and staking and shall make all field adjustments ordered by the Landscape Architect at no extra cost to the Owner.
- B. Upon request by the Landscape Architect, the Contractor shall make available to the Owner survey instruments necessary to check proposed vertical and horizontal alignments at no extra cost.
- C. All major site features, including courts, fencing, and paved walkways shall be laid out by a Surveyor registered in the State of Massachusetts.

PART 3 - EXECUTION

3.01 SURVEY LAYOUT

- A. The Contractor shall use the alignments shown on the Plans to obtain the alignment which shall be approved subject to field adjustments as ordered by the Landscape Architect.
- B. The Contractor shall inform the Landscape Architect when the general layout is completed and shall not begin excavation until the various alignments are approved by the Landscape Architect. Any discrepancies encountered in field

FIELD ENGINEERING

conditions shall be reported to the Landscape Architect immediately.

- C. The Contractor shall be responsible for maintaining the correct vertical and horizontal alignment of all elements, which responsibility shall not be waived by the Landscape Architect's approval of the basic layout and stakeout.

END OF SECTION

SECTION 01 77 00

PROJECT CLOSE-OUT

PART 1- GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Drawings, all of which apply to this section.
- B. Project close-out procedures are subject to the requirements of M.G.L. Chapter 30, Section 39G.

1.02 SCOPE OF WORK

- A. The scope of work under this Specification section, without limiting the generality thereof, includes the furnishing of all labor, materials, equipment, services, incidentals necessary to complete all of the work in accordance with the Contract Documents, which are intended to describe and provide for a finished piece of work.
- B. The type of work includes the following, without limiting the generality thereof:
 - 1. Final Cleaning.
 - 2. Substantial Completion
 - 3. Recording as-built information and coordination with others to produce final As-Built Drawings.
 - 4. As-built survey of utility structures stamped by Registered Surveyor.
 - 5. Warranties.
 - 6. Operating and Maintenance Manuals: Provide one copy to Mr. Richard G. Bedard, Jr., Assistant Superintendent of Finance and Operations, Millbury Public Schools, 12 Martin Street, Millbury, MA 01527.
 - 7. Final Completion.

1.03 FINAL CLEANING

- A. Immediately prior to Substantial Completion of the work, the Contractor shall perform all cleanup work as follows:
 - 1. Remove all waste materials and rubbish from the site and legally dispose of it.
 - 2. Remove all tools, equipment, machinery, surplus material, temporary enclosures, and any other material belonging to the Contractor or his Subcontractors.
 - 3. Clean all surfaces, fixtures, and equipment within the work areas, and any

PROJECT CLOSE-OUT

surfaces outside the work area which have been made dirty by the work of the contract. Leave the entire site clean and ready for use.

1.04 SUBSTANTIAL COMPLETION

- A. Related Requirements: The Contractor's attention is directed to the General and Supplementary Conditions of the Contract and M.G.L. Chapter 30, Section 39G for additional information covering substantial completion procedures and payments.
 - 1. Substantial Completion is defined in MGL Chapter 30, Section 39G.
- B. Upon Substantial Completion of the project, the Contractor shall present written certification that the work is substantially complete. The Landscape Architect will promptly, and in no case later than 21 days after the Contractor's certification, respond in writing declaring the work has reached Substantial Completion, or he shall provide an itemized list of incomplete or unsatisfactory items that must be completed to achieve Substantial Completion.
- C. Within 65 days after the effective date of a declaration of substantial completion, the Landscape Architect will send the Contractor a Substantial Completion estimate, which will be the balance of the Contract price minus a one percent retention for final completion, amounts to cover any outstanding claims, any amounts estimated to cover incomplete or unsatisfactory work, and the sum of all demands for direct payment made by Subcontractors.
 - 1. Refer to MGL Chapter 30, Section 39G for additional information concerning payment.

1.05 AS-BUILT RECORD DRAWINGS (Electronic and Hard-copy)

- A. General: The Contractor is responsible for As-Built record drawings and for providing final As-Built drawings in electronic format at the project close-out. Do not use As-Built Record Drawings for construction purposes. Protect As-Built Record Drawings from deterioration and loss. Provide access to As-Built Record Drawings for Architect's and Owner's reference during normal working hours.
 - 1. As-Built Record Drawings: Maintain and submit one set of black-line white prints of As-Built Record Contract Drawings and Shop Drawings.
 - (a) Mark As-Built Record Prints to show the actual installation where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, Subcontractor, or similar entity, to prepare the marked-up As-Built Record Prints.
 - (1) Give particular attention to information on concealed elements that cannot be readily identified and recorded

PROJECT CLOSE-OUT

01 77 00-2

- later.
 - (2) Accurately record information in an understandable drawing technique.
 - (3) Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
 - (4) Mark Contract Drawings or Shop Drawings, whichever is most capable of showing actual physical conditions, completely and accurately. Where Shop Drawings are marked, show cross-reference on Contract Drawings.
- (b) Mark as-built record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at the same location.
 - (c) Mark important additional information that was either shown schematically or omitted from original Drawings.
 - (d) Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
 - (e) Identify and date each As-Built Record Drawing; include the designation "PROJECT AS-BUILT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- 2. The Landscape Architect will provide the Contractor with an Autocad file of the site plan. The Contractor shall edit the file to provide the City of Waltham with an electronic as-built drawing file at the close-out of the project.
 - 3. Record Specifications: Submit one copy of Project's Specifications, including addenda and contract modifications. Mark copy to indicate the actual product installation where installation varies from that indicated in Specifications, addenda, and contract modifications.
 - (a) Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - (b) Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - (c) Note related Change Orders, As-Built Drawings, and Product Data, where applicable.
 - 4. Record Product Data: Submit one copy of each Product Data submittal. Mark one set to indicate the actual product installation where installation

PROJECT CLOSE-OUT

01 77 00-3

varies substantially from that indicated in Product Data.

- (a) Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
- (b) Include significant changes in the product delivered to the Project site and changes in manufacturer's written instructions for installation.
- (c) Note related Change Orders, As-Built Drawings, and Record Specifications, where applicable.

1.06 AS-BUILT SURVEY OF UTILITIES

- A. Provide as-built survey of site utility structures stamped by Registered Surveyor. Survey shall include location and elevation of utility structures including catch basins, pipe outlets, manholes, valve boxes, curb stops, inspection ports, etc. Survey shall include inverts of piping and sumps in manholes and catch basins.

1.07 WARRANTIES

- A. Submittal Time: Submit written warranties on request of the Landscape Architect for designated portions of the Work where commencement of warranties other than date of Substantial Completion is indicated.
 - 1. Organize warranty documents into an orderly sequence based on the table of contents of the Project Manual.
 - (a) Bind warranties and bonds in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - (b) Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of the Installer.
 - (c) Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
 - 2. Provide additional copies of each warranty to include in the operation and maintenance manuals. At Substantial Completion of the project, the Contractor shall deliver to the Landscape Architect copies of all warranties for the various materials and pieces of equipment included in the project. These warranties shall be submitted in duplicate and shall be bound together with the operating and maintenance data called for above.

1.02 OPERATION AND MAINTENANCE MANUALS

- A. Assemble a complete set of operation and maintenance data indicating the

operation and maintenance of each system, subsystem, and piece of equipment not part of a system. Include operation and maintenance data required in individual Specification Sections and as follows:

1. Operation Data:

- (a) Emergency instructions and procedures.
- (b) System, subsystem, and equipment descriptions, including operating standards.
- (c) Operating procedures, including startup, shutdown, seasonal, and weekend operations.
- (d) Description of controls and sequence of operations.
- (e) Piping diagrams.

2. Maintenance Data:

- (a) Manufacturer's information, including list of spare parts.
- (b) Name, address, and telephone number of Installer or supplier.
- (c) Maintenance procedures.
- (d) Maintenance and service schedules for preventive and routine maintenance.
- (e) Maintenance record forms.
- (f) Sources of spare parts and maintenance materials.
- (g) Copies of maintenance service agreements.
- (h) Copies of warranties and bonds.

- B. Organize operation and maintenance manuals into suitable sets of manageable size. Bind and index data in heavy-duty, 3-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, with pocket inside the covers to receive folded oversized sheets. Identify each binder on front and spine with the printed title "OPERATION AND MAINTENANCE MANUAL," Project name, and subject matter of contents.

1.03 FINAL COMPLETION

- A. Related Requirements: The Contractor's attention is directed to the General and Supplementary Conditions of the Contract and M.G.L. Chapter 30, Section 39G covering closeout and final payment procedures.

B. Final Completion:

- 1. Within fifteen (15) days of the effective declaration of Substantial Completion, the Landscape Architect will send the Contractor by certified mail, return receipt requested, a complete final punch list of all incomplete or unsatisfactory work items necessary to achieve Final Completion.
 - (a) If the Contractor fails to complete such work within forty-five (45) days after receipt of the list, or by the contractual completion date,

PROJECT CLOSE-OUT

01 77 00-5

whichever is later, the awarding authority may, subsequent to seven (7) days written notice to the Contractor, terminate the Contract and complete the incomplete or unsatisfactory work items and charge the cost of same to the Contractor.

2. The Contractor shall notify the Landscape Architect when the work is completed. The Landscape Architect will promptly inspect, and in no case later than thirty (30) days after notification by the Contractor that the work is complete, send the Contractor a final estimate for the Contract balance due, holding back any amount estimated to cover work which is still incomplete or unsatisfactory.
3. Upon completion of all remaining items, and after receipt of all appropriate Record Specifications, Record Product Data, Operating and Maintenance Manuals, Warranties, Guarantees and any Spare Parts as required by the Contract Documents, the Contractor shall provide a notarized Contractor's Certificate and Release and a final Application for Payment to the Owner to complete the close-out process.

END OF SECTION

SECTION 02 01 00

EXISTING TREES TO REMAIN

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.
- B. This Section specifies requirements for maintaining existing trees, before, during and after construction.
 - 1. The Contractor's attention is directed to the protection of all existing trees within the project area.
 - 2. No construction activity shall occur on-site before tree protective fencing has been installed.
 - 3. Obtain approval of the Town of Millbury Tree Warden prior to pruning if such work is necessary for installation of improvements.

1.02 REFERENCE STANDARDS

- A. National Arborist Association Pruning Standards for Shades Trees (1988 Revision).

1.03 QUALITY ASSURANCE

- A. Work under this Section is subject to inspection by the Town of Millbury Tree Warden and shall be done to his satisfaction.
- B. Notify the Landscape Architect at least one week before trees are scheduled for pruning.

PART 2 – PRODUCTS

2.01 TREE PROTECTION FENCE

- A. Trees indicated on the Drawings for protection shall be protected by temporary moveable 6' height chain link construction fence, dimensioned as shown on the Drawings, or equal method acceptable to the Landscape Architect.
- B. Tree protection fence is the minimal area required to protect trunk and branches and does not define the full extent of tree canopy. No materials shall be stockpiled, or vehicles parked or driven within the tree canopy, unless it is necessary to install site improvements in that area.

EXISTING TREES TO REMAIN

2.02 ACTIVITIES WHICH ARE PROHIBITED WITHIN THE TREE CANOPY (DRIP-LINE)

- A. Parking or driving of equipment, machinery, and stockpiling of materials.
- B. Dumping of any liquid waste such as paint thinner from cleaning brushes, wash-out materials from cleaning equipment, or debris of any kind.

PART 3 – EXECUTION

3.01 GRADING OPERATIONS AT EXISTING TREES TO REMAIN

- A. Where grading work is required within the dripline or canopy of existing trees to remain:
 - 1. Notify the Landscape Architect prior to excavating in these areas.
 - 2. Deep water tree to a depth of 12" one week prior to grading operations, and immediately after grading operations are complete.
- B. When excavating or trenching with the dripline, hand dig in a manner which will cause minimum damage to root systems.
- C. Cut roots cleanly and to a depth 3" below finished grade. Do not cut tree roots over 2 inches in diameter unless approved by the Landscape Architect or Tree Warden.
- D. Prune injured roots clean and backfill as soon as possible.

3.02 WATERING OF EXISTING TREES TO REMAIN DISTURBED BY CONSTRUCTION

- A. All existing trees whose canopy has been disturbed by construction, by grading and/or installation of paving or walls, shall be watered throughout the construction period.
 - 1. The Contractor shall maintain at the site at all times a watering truck or permitted connection to a fire hydrant for the purpose of tree watering through the months of June through September and additional periods as determined by the Landscape Architect.
 - 2. Watering of trees disturbed by construction shall consist of deep watering (12"-24" depth) monthly, and additionally as directed by the Landscape Architect or Tree Warden.

3.03 PRUNING EXISTING TREES TO REMAIN

- A. Crown Raising: Remove limbs of any tree within 5' of sidewalks or walks to a height of 80" above finished grade.

EXISTING TREES TO REMAIN

END OF SECTION

EXISTING TREES TO REMAIN
02 01 00-3

SECTION 02 27 50

EROSION AND SEDIMENTATION CONTROL

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.

1.02 SUMMARY

- A. The work of this Section consists of furnishing, placing, maintaining and removal of erosion and sedimentation control systems at the location and detail shown on the Contract Drawings or as directed by the Owner's Representative, and in accordance with the specifications.

1.03 QUALITY ASSURANCE

- A. Codes and Standards: Comply with provisions of following, except otherwise indicated:
 - 1. References to "Standard Specification" mean the Commonwealth of Massachusetts "Standard Specifications for Highways and Bridges" latest edition including any interim and supplemental specifications.
 - 2. References to Massachusetts Guidelines for Soil Erosion and Sedimentation Control.
 - 3. Commonwealth of Massachusetts Department of Transportation, Best Management Practices (BMPs) for the Protection of the Environment.

1.04 SUBMITTALS

- A. Submit the following in accordance with the requirements of Section 01 33 00 Submittal Procedure.
- B. Submit erosion and sedimentation control plans for each site.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Coir Logs, or Straw Wattles for Erosion Control shall meet requirements of Section 767, Subsection 767.40 of the Standard Specification.

PART 3 - EXECUTION

3.01 CONSTRUCTION METHODS

EROSION AND SEDIMENTATION CONTROL

- A. Construction methods shall conform to the requirements of Subsections 767.60, 767.61, 767.62 and 767.63.

END OF SECTION

SECTION 02 41 00

SITE PREPARATION AND DEMOLITION

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.
- B. Contact Dig-Safe (811) seventy-two hours prior to the start of any removals or excavation work and obtain a Certificate verifying that marking the location of utilities has been completed. Contact the Town of Millbury Engineer to verify the location of additional on-site utilities. Coordinate demolition work with utility companies. Dig-safe does not locate telephone and cable lines; contact the specific utilities involved for this information.
- C. Notify the Landscape Architect one week prior to removing trees scheduled to be demolished.

1.02 SCOPE OF WORK

- A. Provide all equipment and do all work necessary to prepare the site complete, as indicated on the Drawings and as specified.
- B. The work shall include, but is not limited to, the following:
 - 1. Marking the location of utilities within the Limit of Work Line.
 - 2. Demolition of items indicated on the Drawings and removal of incidental site items not indicated on the site plan which will impede proposed construction.
 - 3. Protection of existing site elements to remain.
 - 4. Erosion Controls.
 - 5. Provision of a 6' height temporary chain link fence enclosing the site during construction.

1.03 RELATED WORK

- A. Section 01 71 23 - Field Engineering: Layout of site improvements.
- B. Section 01 50 00 - Temporary Facilities and Controls.
- C. Section 02 01 00 – Existing Trees to Remain.
- D. Section 31 00 00 - Earthwork.

1.04 SUBMITTALS

SITE PREPARATION AND DEMOLITION

02 41 00-1

- A. Copies of required permits.
- B. Provide certificate verifying marking of utilities thru Dig-safe.
- C. Submit shop drawing or description of temporary signs including text, for approval by the Landscape Architect, prior to their installation.

1.05 REFERENCES

- A. All work shall comply with the minimum standards of the latest editions of the following codes and specifications, subject to modifications and amendments outlined herein.
 - 1. MHD: "Standard Specifications for Highways and Bridges", Department of Public Works, Commonwealth of Massachusetts, latest edition.
 - 2. Federal, State and/or Municipal Codes.
 - 3. Public Safety Codes.
 - 4. U.S. Public Health Service.
 - 5. National Electric Manufacturers Association.
 - 6. American National Standards Institute.
 - 7. American Society of Mechanical Engineers.
 - 8. Commercial Standards.
 - 9. Federal Specifications.
 - 10. Occupational Safety and Health Regulations.
 - 11. Americans with Disabilities Act Guidelines (ADAAG) for Building and Facilities, 36 CFR Part 1191.
 - 12. MAAB CMR 521 Regulations.
 - 13. National Arborist Association Standards, National Arborist Association, 124 Route 101, Bedford, NH 03102.
 - 14. OSHA Construction Regulations Title 29 CFR Part 1926.

1.06 EXAMINATION OF SITE AND DOCUMENTS

- A. The Contractor shall inform him/herself of existing conditions of the site before submitting his/her bid. No claim for extra compensation or extension of contract time will be allowed on account of conditions which are apparent from a thorough visual examination of the site.

1.07 MAINTENANCE OF ACCESS ON SIDEWALKS AND ROADS

- A. The Contractor shall not close or obstruct any portion of street or sidewalk without obtaining permits therefor from the proper municipal authorities. Streets and sidewalks shall be maintained passable by the Contractor at his own expense, and the Contractor shall assume full responsibility for the adequacy and safety of provisions made. He shall conduct construction operations such that interference with the flow of vehicular and pedestrian traffic is held to a minimum.
- B. The Contractor shall coordinate with the Town Fire and Police at all times. The Contractor shall notify the Town of Millbury Fire Department and Town of Millbury Police Department when any street or any portion of the traveled way is

SITE PREPARATION AND DEMOLITION

to be closed regardless of the length of time or day. No street shall be closed without the approval of the Public Works Department of the Town of Millbury.

- C. Keep all adjacent streets and sidewalks swept clean at all times. Cleanup operations not performed in a timely manner will be performed by the Town of Millbury and back charged to the Contractor.

1.08 PERMITS AND CODES

- A. All work shall be as shown in the Contract Drawings and Specifications and shall comply with applicable codes and regulations at the local, county, state, and federal levels. All labor, materials, equipment, and services necessary to make the Work comply with such requirements shall be provided without additional cost to the Owner.
- B. The Contractor, under this Section, shall be responsible for providing and filing all Plans, Specifications, and other documents, pay all requisite fees and secure all permits, inspections, and approvals necessary for legal installation and operation of the systems and or equipment finished under this Section.

1.09 TRAFFIC POLICE

- A. Traffic police will be required for operations within City streets. Refer to Section 01 41 00 - Control of the Work, Section 1.05 for police requirements.

1.10 CONDITIONS OF WORK

- A. Conduct the work giving consideration to protection of the public, protection of the existing work from weather; control of noise, shocks, and vibration; control of dirt and dust; orderly access and storage of materials; protection of existing buildings; protection of adjacent buildings and property. Coordinate work and cooperate with the Owner and Landscape Architect at all times.
- B. Schedule site preparation and removal work in connection with the progress schedule required by the General Conditions.
- C. The Site Preparation / Demolition Plan endeavors to describe the scope and intent of Work. No guarantee is expressed or implied that the Site Preparation and Demolition Plan describes the full extent of objects to be removed in order to facilitate construction. Site Preparation operations not specifically identified on the Contract Drawings shall be considered as part of the basic lump sum contract and do not qualify as extra work.
- D. All other work requiring removal, such as fence, tree roots and former buried footings shall be removed and discarded as required for proper construction of new work without additional cost to the Owner.
- E. No extra demolition shall be performed without first notifying and obtaining

written approval of the Landscape Architect.

1.11 DRAINAGE AND EROSION CONTROL

- A. Upon entry to the site, the Contractor shall assume responsibility for site and subsurface drainage. During the Contract period the Contractor shall maintain drainage in a manner satisfactory to the Landscape Architect. At all times, the adjacent areas shall be protected and maintained in their existing conditions.
- B. It shall be the responsibility of the Contractor to render the site erosion-free, at all times during the Contract period. The Contractor shall take special precautions to prevent erosion run-off from slopes, drainage trenches, granular bases, structures, and other improvements. Unless otherwise indicated on the Drawings, hay bales, jute mesh, catch basin insert filtration bags, and siltation fabrics shall be used, as determined by the Landscape Architect.

1.12 DELIVERY, STORAGE AND HANDLING

- A. Materials shall be stored in a dry location, off the ground and in such a manner as to prevent damage, intrusion of foreign matter and weather. All materials which have become damaged or otherwise unfit for use during delivery or storage shall be replaced at the expense of the Contractor.

PART 2 - PRODUCTS

A. LAYOUT AND STAKING

- B. Refer to Section 01 71 23 - Field Engineering for layout and staking requirements.

2.02 DUST CONTROL

- A. The Contractor shall provide a source of water for dust control either a water truck on-site or permitted connection to City fire hydrant throughout the period of construction.
- B. Water for dust control shall be free from contaminants hazardous to human health and plant growth. No calcium chloride may be used.

PART 3 - EXECUTION

3.01 LOCATING UTILITIES & SITE ITEMS AFFECTING THE WORK

- A. Prior to site preparation and removals operation, the Contractor shall locate and mark all site items such as utilities which could be affected by site preparation and removals.
- B. Contact Dig-Safe (1-888-344-7233) seventy-two hours prior to the start of any removals or excavation work and obtain a Certificate verifying that marking the location of utilities has been completed. Contact the Town of Millbury

SITE PREPARATION AND DEMOLITION

Engineering Department to verify the location of additional on-site utilities. Coordinate demolition work with utility companies. Dig-safe does not locate telephone and cable lines; contact the specific utilities involved for this information.

3.02 PROJECT CONDITIONS

- A. All apparatus, storage, and the operation of work people in connection with activities under this Section shall be confined within the property lines of the park shall not encumber areas outside the site.
- B. Thoroughly wet down exposed earth during demolition to prevent the spread of dust. Avoid flooding or contaminated run-off.
 - 1. Continue dust control operation as necessary and as directed by the Landscape Architect throughout the construction period until all disturbed areas have been permanently stabilized.
- C. All existing items to remain which are damaged by the Contractor will be repaired or replaced at the Contractor's expense. Replacement or repaired items shall be equal to new items as specified.
- D. The Contractor shall be responsible for the methods used in this work including properly protecting against damage to existing and proposed site improvements, structures, site features, utility lines, trees, lawns, etc. Check with municipality and local utility companies for locations of existing utilities which may be in use or abandoned. Investigate and ascertain that underground utilities are correctly located and that they have been shut off and/or abandoned before disturbing them.

3.03 PROTECTION

- A. The Contractor shall assume complete responsibility and liability for the safety and structural integrity of all work and utilities to remain during the performance of all work.
- B. The Contractor shall provide safeguards including, but not limited to, warning signs, barricades, temporary construction fences, warning lights and other items required for protection of personnel and the public during the performance of all work.
- C. The Contractor shall provide barricades for substantial construction in accordance with safety regulations of authorities having jurisdiction and insurance requirements.
- D. All features related to protection shall be maintained until that unit of work has been completed to the point that the danger no longer exists.

3.04 CLEARING AND GRUBBING

SITE PREPARATION AND DEMOLITION

- A. Remove obstructions, trees, shrubs, grass, and other vegetation to permit installation of new construction, and in areas indicated on the Drawings.
- B. Existing Trees to be Removed and Disposed of:
 - 1. Roots and stumps of trees to be removed shall be removed in their entirety including tap roots where applicable.
- C. Grinding of existing stumps: Grind stump to depth indicated on the drawings.
- D. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.

3.05 PAVING

- A. The line between existing pavement to be removed and existing pavement to remain shall be cut neatly saw-cut through full depth of pavement section to leave a smooth, straight, and vertical edge. Cut to the dimensions given or directed. Remove the portion behind the cut with proper tools.
 - 1. Existing pavement, which is damaged, disturbed or settled by construction operations shall be cut back by the same method and replaced as directed by the Landscape architect at no additional cost to the Owner.

3.06 LAWN AND FIELD AREAS

- A. Strip lawn areas and stockpile topsoil for re-use. At the end of construction, remove and legally dispose of off-site, any excess quantity of topsoil or earth.

3.07 FOOTINGS & MISCELLANEOUS SITE ITEMS

- A. Footings & miscellaneous site items shall be removed in their entirety and legally disposed of. Holes resulting from demolition shall be backfilled and compacted in accordance with Section 31 00 00 Earthwork.

3.08 CLEANUP

- A. Keep work areas free from accumulation of debris during the work under this Section and leave the premises in a clean condition after completion of the Work of this Section.
- B. At the completion of the work of this Section, properly and legally dispose of all items removed and not scheduled to remain, including surplus soil material, unsuitable topsoil, demolished materials, and waste materials including trash and debris, and any other waste materials in connection with the work under this Section and leave the premises in a clean condition.

END OF SECTION

SITE PREPARATION AND DEMOLITION

02 41 00-6

SECTION 03 30 00

CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this Section.

1.02 WORK INCLUDED

- A. Provide labor, materials, and equipment necessary to complete the work of this Section, including but not limited to the following site improvements:
 - 1. Fiber reinforced concrete footings.

1.03 RELATED WORK:

- 1. Section 11 66 00 – Athletic Equipment.
- 2. Section 31 00 00 – Earthwork.
- 3. Section 32 31 13 – Chain Link Fence.

1.04 SYSTEM DESCRIPTION

- A. Not Used.

1.05 QUALITY ASSURANCE

- A. Installer Qualifications: An experienced installer who has completed concrete work similar in material, design, and extent to that indicated for this Project.
- B. Maintain field records of time, date of placing, curing, and removal of forms for concrete in each portion of the work.
- C. Slope of concrete walkways and slabs shall conform to the requirements of the Massachusetts Architectural Access Board (CMR 521) and Federal ADA Guidelines. It shall be the Contractor's responsibility to check all grades in the field for conformance to these requirements prior to pouring concrete. These regulations allow no tolerance for slopes greater than the maximum slope. Allowable Installed Tolerances stated in Paragraph 3.09 are not permissible in regard to maximum slopes allowed by accessibility regulations.
 - 1. The Contractor shall verify all grades prior to concrete construction.

1.06 REFERENCE STANDARDS

- A. American Concrete Institute (ACI)

CAST-IN-PLACE CONCRETE

1. ACI 117 Specifications for Tolerances for Concrete Construction and Materials
2. ACI 212 Guide for the Use of Admixtures in Concrete
3. ACI 301 Specification for Structural Concrete
4. ACI 305 Hot Weather Concreting
5. ACI 306 Cold Weather Concreting
6. ACI 347 Recommended Practice for Concrete Formwork

B. American Society for Testing and Materials (ASTM)

1. A615 Deformed and Plain Billet-Steel Bars for Concrete Reinforcement
2. C31 10 Standard Practices for Making and Curing Concrete Test Specimens in the Field
3. C33 Concrete Aggregates
4. C39 Standard Test Method for Compressive Strength of Cylindrical Concrete Specimens
5. C94 Ready Mixed Concrete
6. C143 Slump of Portland Cement Concrete
7. C150 Portland Cement
8. C171 Sheet Materials for Curing Concrete
9. C172 Standard Practice for Sampling Freshly Mixed Concrete
10. C231 Standard Test Method for Air Content of Freshly Mixed Concrete
11. C260 Air-Entraining Admixtures for Concrete
12. C309 Liquid Membrane Forming Compounds for Curing Concrete
13. C494 Chemical Admixtures for Concrete
14. C920 Elastomeric Joint Sealants
15. C1247 Standard Test Method for Durability of Sealants Exposed to Continuous Immersion in Liquids

C. Federal Specifications: FS-A-A-1556A

1.07 SUBMITTALS

A. Submit concrete mix designs. Obtain approval before placing concrete. Concrete mix design submittal shall include the following information:

1. Proportions of cement, fine and coarse aggregate, and water.
2. Proportion of polypropylene fibers.
3. Water cement ratio, design strength, slump and air content.
4. Type of cement and aggregates.
5. Type and amount of polypropylene fibers
6. Type and dosage of all admixtures.
7. Range of ambient temperature and humidity for which the design is valid.
8. Certification by ready-mix plant of psi of concrete mix design.

- B. Certification: Written conformance to the requirements above and the chloride ion content of the admixture prior to mix design review.
- C. Submit Product data for the following:
 - 1. Complete materials list of items proposed for the work. Identify materials source. Provide manufacturer's information demonstrating specification compliance, and manufacturer's installation instructions.
 - a. Submit admixtures, curing compound, retarder, and accessory item product data. Chemical admixtures including chloride ion content.
 - b. Submit materials certificates for aggregates, reinforcing, and polypropylene fiber.
 - c. Joint fillers, Sealants, and Sealant Primers: Provide manufacturer's product data and installation instructions. Provide manufacturer's color choices for sealant.
 - (1) Provide manufacturer's recommended primer.
- D. Submit concrete delivery tickets. Show the following:
 - 1. Batch number.
 - 2. Mix by class or sack content with maximum size aggregate.
 - 3. Admixtures.
 - 4. Proportion of polypropylene fiber
 - 5. Air Content
 - 6. Slump
 - 7. Time of loading
- E. Steel Reinforcement Shop Drawings: Details of fabrication, bending, and placement, prepared according to ACI 315, "Details and Detailing of Concrete Reinforcement." Include material, grade, bar schedules, stirrup spacing, bent bar diagrams, arrangement, and supports of concrete reinforcement.

1.08 DELIVERY, STORAGE, AND HANDLING

- A. Deliver, store, and handle steel reinforcement to prevent bending and damage.

1.09 TESTING

- A. The Contractor shall engage an independent testing laboratory acceptable to the Owner, and shall pay for testing of concrete as follows:
 - 1. At least four (4) standard compression test cylinders shall be made and tested for every 50 cubic yards of concrete in place. Two (2) cylinders shall be tested at seven days and two (2) at 28 days.

CAST-IN-PLACE CONCRETE

2. At least one slump test shall be taken for each set of test cylinders taken.

1.10 PRE-CONCRETE CONFERENCE

- A. At least 15 days prior to submittal of design mixes, conduct a meeting to review proposed methods of concrete construction to achieve the desired results.

1.11 PROJECT CONDITIONS

- A. Notify Project Landscape Architect at least 24 hours prior to installation of concrete.

1.12 ENVIRONMENTAL REQUIREMENTS

- A. Do not place concrete when base surface temperature is less than 40 degrees F or surface is wet, frozen, or muddy, or with frozen subgrade.
- B. Do not install concrete when air temperature is below 40 degrees F. Use of calcium chloride, salt, or any other admixture to prevent concrete from freezing is prohibited.

PART 2 - MATERIALS

2.01 PRODUCTS

- A. Portland Cement
 1. Provide Portland Cement conforming to ASTM C150, Type II, Dark Gray.
- B. Concrete Aggregate
 1. Provide ASTM C33 normal weight aggregates, 3/4" maximum size, clean, uncoated crushed stone, or gravel coarse aggregate free of materials which cause staining or rust spots; fine aggregate shall be clean natural sand.
- C. Polypropylene Reinforcement Fibers: Provide polypropylene fibrillated fibers of multi-design ASTM C1116C/116M, Section 4.1.3 Type III.
 1. Fibers must be a micro-reinforcement system for concrete made of 100% virgin polypropylene fibrillated fibers of multi-design gradation as manufactured by Fibermesh, Synthetic Industries, 4019 Industry Drive, Chattanooga, Tennessee 37416; Masterfiber M70 by BASF, or an approved equal.
- D. Water shall conform to ASTM C94.
- E. Air entraining admixture: ASTM C260.
- F. Water-reducing admixture: ASTM C494

- G. Prohibited Admixtures: Calcium chloride, thiocyanate or admixtures containing more than 0.05 percent chloride ions are not permitted.
- H. Curing Materials: Type 2 Liquid Membrane-Forming Compounds for Curing Concrete shall be used in accordance with ASTM Designation C-309-58 or AASHTO Designation M140-57 or the latest revisions thereof.

2.02 MIXES

A. Concrete

1. Provide ASTM C94 ready-mixed concrete. Use ACI 301 Method 1 or Method 2 to determine mix proportions. One copy of the certificate of delivery shall be submitted immediately upon arrival of each load of concrete at the site.
2. One copy of the certificate of delivery shall be submitted immediately upon arrival of each load of concrete at the site.
 - a. Concrete mix shall conform to the following:
 - (1) Air entraining admixture to obtain 6% (\pm 1-1/2%) entrained air.
 - (2) 4,000 psi at 28 days.
 - (3) 3/4" maximum stone.
 - (4) Water: Cement ratio: 0.44
 - (5) Concrete slump shall be no less than 2" nor greater than 4", determined in accordance with ASTM C143.
 - (6) Provide polypropylene reinforcement fibers, added at the rate of 1.0 lb./cubic yard of concrete.
 - b. All concrete mixes shall contain a water reducing agent to minimize the water cement ratio of the mix, at the specified slump.
 - c. No calcium chloride or admixtures containing calcium chloride shall be added to the concrete mixes. No admixtures other than those specified shall be used in the concrete without the specific written permission of the Landscape Architect.

2.03 ACCESSORIES

A. Form Materials

1. Wood or metal of sufficient strength to resist concrete placement pressure and to maintain horizontal and vertical alignment. Provide forms straight, free of defects and distortion, and height equal to full depth of concrete work. Minimize joints by using largest practical sizes.

- a. Provide 2" nominal thickness, surfaced plank wood forms for straight sections.
 - b. For all curved surfaces, use flexible metal, 1" lumber, or plywood forms to smoothly form radius bends conforming to the tolerances of ACI 301.
- B. Form release agent: Non-staining chemical form release agent free of oils, waxes, and other materials harmful to concrete.
- C. Joint filler: Expansion joint filler shall be a flexible, lightweight, non-staining polyethylene, closed-cell expansion joint filler. It shall be a chemical-resistant, ultraviolet stable, non-absorbent, low density, compressible foam. Joint filler shall be recessed to receive backer rod and sealant, shall be one piece, extending to full depth and width of the joint.
 - 1. Provide backer rod sized 1/8" larger than joint width. Provide backer rod compatible with sealant.
- D. Joint Sealant & Primer for Expansion Joints or Construction Joints:
 - 1. Seal expansion joints with a non-staining, self-leveling, two component polyurethane-based sealant conforming to Fed. Spec. TT-S-00227, Class A, and ASTM C920, Type M, Grade P, Class 25, Use T, with a Shore A Hardness of 30±5 or better.
 - 2. Provide primer if recommended by the sealant manufacturer.
- E. Welded Steel Wire Fabric: Plain type, ANSI/ASTM A185. Only flat sheets of welded wire fabric shall be used. Use of roll fabric is not permitted.
- F. Dowels and Reinforcing Bars: ASTM A615, A616, or A617, 40 ksi yield grade, plain steel, finish, new domestic deformed steel bars, sizes indicated.

2.04 BASE COURSES

- A. Provide compacted aggregate base course as specified under Section 31 00 00 Earthwork.

PART 3 - EXECUTION

3.01 PREPARATION

- A. Prepare subbase as specified in Section 31 00 00 Earthwork.

3.02 INSPECTION OF SUBGRADE

- A. Verify that base course is acceptable and ready to support concrete and imposed loads. Verify gradients and elevations of base are correct. Remove any loose

CAST-IN-PLACE CONCRETE

03 30 00 -6

material or debris from base surface before placing concrete. Do not start concrete work until unsatisfactory conditions are corrected.

- B. Do not place any concrete in footings before inspection and acceptance of bearing surfaces by the Project Landscape Architect.

3.03 PREPARATION

- A. Verify lines, levels, and locations of formed concrete work. Verify that form dimensions comply with drawing dimensions.
- B. Design, erect, support, brace, and maintain formwork to support all applied vertical and lateral loads. Construct formwork to provide correct size, shape, alignment, elevation, and position of concrete work.
- C. Design and erect formwork to permit removal without damage to cast-in-place concrete surfaces and adjacent materials during stripping.
- D. Install, align, and level forms. Stake and brace forms in place. Maintain following grade and alignment tolerances:
 - 1. Top of form: Maximum 1/8" in 10'-0".
 - 2. Vertical face: Maximum 1/4" in 10'-0".
 - 3. Cross Sectional dimensions : Plus or minus 1/4".
 - 4. Horizontal and vertical lines: 1/4" in 10'-0".
 - 5. Location dimensions indicated: 1/4".
- E. Coat form surfaces in contact with concrete with form release agent. Clean forms after each use and coat with form release agent as necessary to assure separation from concrete without damage. Apply before placing reinforcing steel, anchoring devices, and embedded items.
- F. Locate, place, and support reinforcement as indicated.
 - 1. Where indicated, provide a single layer of welded wire fabric.
 - 2. Provide reinforcing bars at curbs, steps, and other locations indicated, adequately supported, and secured to prevent displacement.
 - 3. Interrupt reinforcement at expansion joints.
- G. Place dowels to achieve pavement alignment as detailed.
 - 1. Provide doveled joints at expansion joints as detailed in the Drawings.
 - 2. Place joint filler vertical in position, in straight lines. Secure to formwork during concrete placement.
- H. Joints
 - 1. Construct control, expansion, and construction joints properly aligned with

face perpendicular to concrete surface.

- a. For concrete paving, provide saw-cut control joints as indicated on the Drawings. Saw control joints as soon as the sawn joints have clean cut edges. Saw to a depth of at least 1/4 of the slab thickness.
 - (1) Provide saw-cut control joints at all re-entrant corners.
 - b. Place expansion joints as shown on the Drawings, and at concrete work abutting curbs, walls, structures, walks, and other fixed objects.
 - (1) Install joint fillers full width and depth of joint. Recess top edge below finished grade where joint sealants are indicated.
 - (2) Provide joint fillers in single lengths for the full slab width whenever possible. Fasten joint filler sections together when multiple lengths are required.
 - (3) Protect top edge of joint filler during concrete placement.
- I. Install, set, and build-in work furnished under other Items. Provide adequate notification for installation of necessary items.

3.04 PLACING CONCRETE

- A. Comply with ACI 304 “Recommended Practice for Measuring, Mixing, Transporting, and Placing Concrete”, and as specified. No concrete shall be placed by pumping methods.
- B. Protect concrete from physical damage or reduced strength due to weather extremes during mixing, placing, and curing. In cold weather comply with ACI 306, “Recommended Practice for Cold Weather Concreting”. In hot weather comply with ACI 305, “Recommended Practice for Hot Weather Concreting.
- C. Moisten base to provide a uniform dampened condition at the time concrete is placed. Verify manholes or other structures are at required finish elevation and alignment before placing concrete. Coat surfaces of drainage structure frames with oil to prevent bond with concrete pavement.
- D. Place and spread concrete to the full depth of the forms. Use square-end shovels or concrete rakes for hand-spreading and consolidating concrete. Exercise care during spreading and consolidating operations to prevent segregation of aggregate and dislocation of reinforcement.
- E. Place concrete in a continuous operation between expansion joints. Provide construction joints when sections cannot be placed continuously.

- F. Place concrete in one course, monolithic construction, for the full width and depth of concrete work. Place all footings full thickness in one operation, without change in proportions; screeded to proper elevation; and floated.
- G. Consolidate installed concrete using mechanical vibrating equipment supplemented with hand rodding and tamping. Work concrete thoroughly around reinforcement and other embedded items and into all parts of formwork.
- H. After the concrete has been placed, consolidated, and struck off and leveled, do not work the concrete further until ready for floating.

3.05 FLOATING AND TROWELING

- A. Waiting Period: No finishing operations shall be performed when free water is present. Begin floating only when the water sheen has disappeared and when the surface has stiffened sufficiently to permit the operation without leaving footprints more than 1/4" deep.
- B. During or after the first floating, check planeness of surface with a 10-foot straightedge applied at not less than two different angles.
- C. Cut down all high spots and fill all low spots during this procedure to produce a surface within specified tolerances throughout. Immediately refloat the slab to a uniform, slightly rough, sandy texture.

3.06 EDGING

- A. Upon completion of floating, and after bleed water has disappeared and concrete can sustain foot pressure with nominal indentation, cut concrete away from forms. Work edges with a edging tool. Round edges to 1/2" radius.

3.07 FINISHES

- A. Provide the following finishes in accordance with PCA Concrete information "Finishing Concrete Slabs with Color and Texture".
 - 1. Provide a fine broom finish for all exposed concrete surfaces.

3.08 TOLERANCES

- A. The following tolerances are allowable variations from dimensions indicated in the Contract Documents with the exception of ADA/MAAB requirements. There is no tolerance allowed for ADA/MAAB maximum or minimum dimensions. Tolerances indicated below shall not be added to allowable tolerances indicated for other work.
 - 1. Allowable variation from true level: plus or minus 1/8" in 20 ft.
 - 2. Allowable variation from true line: plus or minus 1/8" in 20 ft.

3. Ponding: No ponding is permitted.

3.09 PROTECTION

- A. Immediately after placement, protect pavement from premature drying, excessive hot or cold temperatures, and mechanical injury.

3.10 CURING & PROTECTION

- A. Precautions shall be taken in hot weather to prevent plastic cracking resulting from excessively rapid drying at surface as described in CIP 5 Plastic Shrinkage Cracking published by the National Ready Mixed Concrete Association. These include among other actions temporary windbreaks, shading, and late afternoon or early morning timing for placement.
- B. It is essential that concrete be kept continuously damp from time of placement until end of specified curing period. It is equally essential that water not be added to surface during finishing operations, and not earlier than 24 hours after concrete placement. Between finishing operations, surface shall be protected from rapid drying by a covering of waterproofing paper. Surface shall be damp when the covering is placed over it, and shall be kept damp by means of a fog spray of water, applied as often as necessary to prevent drying, but not sooner than 24 hours after placing concrete. None of the water so applied shall be troweled or floated into surface.
- C. Walls and vertical surfaces shall be cured by maintaining wood forms continuously wet during curing period, or by wrapping with continuous .006" polyethylene with taped joints.
- D. Concrete pavement surfaces shall be cured by completely covering with curing paper or by use of a curing compound.
- E. Concrete cured using curing paper shall be completely covered with paper with seams lapped at least 2" and sealed with tape. During curing period, surface shall be checked frequently, and sprayed with water or curing compound as applicable, as often as necessary to prevent drying, but not earlier than 24 hours after placing concrete.
- F. Concrete cured with a curing compound shall have curing compound applied at a rate of 200 square feet per gallon in two applications perpendicular to each other.
- G. Curing period shall be 7 days, minimum.

3.11 SURFACE REPAIR

- A. Patch and repair defective areas to match adjacent surfaces.
- B. Provide sample repair patches, in locations acceptable to the Project Landscape

Architect for approval of materials, procedures, and finish results.

- C. The presence of serious honeycomb or excessive misalignment of forms shall be sufficient cause for rejection and replacement of the concrete affected at the Contractor's expense.

3.12 JOINT SEALANTS

- A. Preparation: Joint surfaces shall be clean, sound, and frost-free, free of oils, grease, curing compound residues, and any other foreign matter that might prevent bonding.
- B. Provide backer rod where indicated on the Drawings.
- C. All joints shall be primed with material recommended by sealant manufacturer, according to manufacturer's instructions.
- D. Mix components according to manufacturer's instructions and at recommended ambient temperatures.
- E. Apply according to manufacturer's instructions. Do not apply sealants when temperature is below 40 degrees F.
- F. Allow at least a 3-day cure before subjecting sealant to water immersion, or as recommended by the manufacturer.
- G. Fully cure sealants per manufacturer's specifications, prior to painting or sealing.

3.13 FIELD QUALITY CONTROL

- A. All concrete materials and their placement shall be subject to Contractor's independent quality control testing and review by the City. Test results and laboratory recommendations will be made available to both the Contractor and the City. Contractor shall coordinate testing with the Project Landscape Architect.
 - 1. Provide slump test on first load of concrete fill delivered each day and whenever requested by the Landscape Architect due to changes in consistency or appearance of concrete.
 - 2. Provide air indicator tests and air meter tests for all air-entrained concrete.
 - a. Perform air indicator test with a "Chase" AE35 or equal air indicator, and air meter test in accordance with ASTM C231 or C173. Test first load of concrete delivered each day.
 - b. Furnish copies of field records and test reports as listed for strength tests.
 - 3. Strength testing: Refer to Paragraph 1.09 of this Section.

CAST-IN-PLACE CONCRETE

END OF SECTION

CAST-IN-PLACE CONCRETE
03 30 00 -12

SECTION 11 66 00

ATHLETIC EQUIPMENT

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.

1.02 SCOPE OF WORK

- A. Furnish and install four (8) Pickle Ball Posts and four (4) Nets.
- B. Furnish and install six (6) Tennis posts and three (3) Nets.

1.03 RELATED WORK

- A. Section 03 30 00 - Cast-in-Place Concrete.
- B. Section 32 12 16 – Bituminous Concrete Paving.

1.04 SUBMITTALS

- A. Submit manufacturer's literature demonstrating compliance with the specifications.
- B. Submit manufacturer's recommended installation details and instructions.
- C. Where applicable, submit standard color choices.

1.05 DELIVERY STORAGE AND HANDLING

- A. All materials shall be protected from weather and other damage prior to installation.

PART 2 - MATERIALS

2.01 PICKLEBALL POSTS AND NETS

- A. Pickleball posts shall be Model 2202 as manufactured by PW Athletic Mfg. Co, or approved equal.
 - 1. Posts shall be fabricated from 3-1/2 galvanized steel pipe with powder coat.
 - 2. Posts shall have a net tightener to provide tensioning of the top cable of the net.
 - 3. Posts shall have a 10 warranty for the powder coat finish.
- B. Pickleball Nets:

ATHLETIC EQUIPMENT

1. Nets shall be Model 8354 as manufactured by PW Athletic Mfg. Co, or equal conforming to the following:
 - (a) Net shall be USPA official size (36" high x 22' long).
 - (b) Netting shall be 1-3/4" square mesh braided 3.0 mm polyethylene.
 - (c) Nets shall have headband made of vinyl coated polyester, lock-sewn with four rows of polyester thread.
 - (d) Bottom tape and side pockets shall be polyester, double lock sewn with polyester thread.
2. Nets shall be covered by a 4-year warranty.

2.02 TENNIS NET AND POSTS

- A. Tennis posts shall be Model 2201-11P as manufactured by PW Athletic Mfg Co., or approved equal conforming to the following:
 1. Post shall be manufactured from 3-1/2" OD galvanized steel.
 2. Post shall be fitted with post tighteners.
 3. Posts shall be powder coated.
 4. Powder coat shall be covered by a 10-year warranty.
- B. Tennis net shall be Douglas Championship Net 30036T or equal meeting the following:
 1. Net shall be tapered, vinyl coated polyester, 2 ply.
 2. Weight shall be 20 oz/sq. yd.
 3. Netting shall be 3.5 mm.
 4. Break strength: 325 lbs.
 5. Net shall have a 5-year warranty.
- C. Provide heavy duty 2" wide polyester adjustable center strap.

PART 3 - INSTALLATION

3.01 GENERAL

- A. Install according to manufacturer's directions.
- B. Install level and plumb.

END OF SECTION

SECTION 31 00 00

EARTHWORK

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. All the Contract Documents, including the Contract Form, General Provisions, General Conditions, Supplemental Conditions, and all Attachments to the General Provisions, and Division 1 - General Requirements, apply to the work of this Section.
- B. Contact Dig-Safe (811) seventy-two hours prior to the start of any removals or excavation work and obtain a Certificate verifying that marking the location of utilities has been completed. Contact the City of Waltham Engineer to verify the location of additional on-site utilities. Coordinate earthwork with utility companies.

1.02 SCOPE OF WORK

- A. Work under this Section shall include all labor, materials, services, equipment, transportation and accessories and the performance of all operations necessary to complete the work of this Section, as indicated on the Contract Drawings and as specified herein.
- B. The work shall include, but is not limited to, the following:
 - 1. Furnishing and installing base courses for paving
 - 2. Miscellaneous fill for footings.
 - 3. Site grading. For grading within the dripline of existing trees to remain, refer to Section 02 01 00 – Existing Trees to Remain.

1.03 RELATED WORK

- A. Section 02 41 00 – Site Preparation & Demolition
- B. Section 02 01 00 – Existing Trees to Remain
- C. Section 11 66 00 – Athletic Equipment.
- D. Section 32 12 16 – Bituminous Concrete Paving
- E. Section 32 92 23 – Lawn Restoration

1.04 REFERENCES

- A. All work shall comply with the minimum standards of the latest editions of the following codes and specifications, subject to modifications and amendments outlined herein.
 - 1. MHD: “Standard Specifications for Highways and Bridges”, Department

EARTHWORK

- of Public Works, Commonwealth of Massachusetts, Latest Edition.
2. ASTM: American Society of Testing Materials.
3. AASHTO: American Association of State Highway and Transportation Officials.
4. ANSINFPA: American National Standards Institute, National Fire Protection Act.
5. Federal, State and/or Municipal Codes.
6. Public Safety Codes.
7. U.S. Public Health Service.
8. National Electric Manufacturers Association.
9. Commercial Standards.
10. Occupational Safety and Health Regulations.
11. OSHA Construction Regulations Title 29 CFR Part 1926.

1.05 EXAMINATION OF SITE AND DOCUMENTS

- A. By submitting a bid, the Contractor affirms that he/she has carefully examined the site and conditions affecting Work under this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions which can be reasonably inferred from visual inspection of the site.

1.06 SUBMITTALS

- A. Submit to the Landscape Architect:
 1. A representative sample of approximately 5 pounds for each type of fill material.
 2. Supplier's or laboratory sieve analysis for each type of fill material demonstrating compliance with the Specifications.
 3. Manufacturer's requirements for graduation of the crushed stone base course for safety surfacing, listing the sieve graduations required.
 4. Name of soils testing laboratory for compaction tests.
 5. Results of the Modified Proctor laboratory test for crushed stone base course subgrade fill under safety surfacing.
 6. Results of field compaction tests for safety surfacing base course and subgrade.

1.07 COMPACTION TESTING

- A. The Contractor shall pay for an independent laboratory, subject to the approval of the Landscape Architect, to provide testing of compaction as follows:
 1. Maximum density and optimum water content determination by the ASTM D-1557-09 or AASHTO T-180 Modified Proctor laboratory test for "Suitable Backfill" for the subgrade and crushed stone base for safety surfacing.
 2. On-site: Provide one field density test of the subgrade and in each compacted fill layer of base course as follows:

- (a) Tennis Courts, Pickleball Courts: Four different locations within each area.

1.08 PERMITS AND CODES

- A. All work shall be as shown in the Contract Drawings and Specifications and shall comply with applicable codes and regulations at the local, county, state, and federal levels. All labor, materials, equipment, and services necessary to make the Work comply with such requirements shall be provided without additional cost to the Owner.
 - 1. OSHA Construction Regulations Title 29 CFR Part 1926.
- B. The Contractor, under this Section, shall be responsible for providing and filing all Plans, Specifications and other documents, pay all requisite fees and secure all permits, inspections and approvals necessary for legal installation and operation of the systems and or equipment furnished under this Section.
- C. The Contractor shall include in his/her bid any charges by the Water Department, Utility Company, or other authorities for work done by them and charged to the Contractor.

1.09 CONDITIONS OF WORK

- A. Conduct the work giving consideration to protection of the public, protection of the existing work from weather; control of noise, shocks, and vibration; control of dirt and dust; orderly access and storage of materials; protection of existing buildings; protection of adjacent buildings and property. Coordinate work and cooperate with the Owner and Landscape Architect at all times.
- B. Schedule earthwork in connection with the progress schedule required by the General Conditions.

1.10 DISPOSITION OF EXISTING UTILITIES

- A. Site information: No representations are made indicating subsurface conditions. It is expressly understood that the Owner/Landscape Architect will not be responsible for interpretations or conclusions drawn therefrom by the Contractor.
- B. Existing Utilities
 - 1. Before starting earthwork, locate existing underground utilities in areas of work. If utilities are to remain in place, provide adequate means of support and protection during earthwork operations.
 - 2. Should uncharted, or incorrectly charted, piping or other utilities be encountered during excavation, notify the Landscape Architect and Owner, and consult utility Owner immediately for directions. Cooperate

EARTHWORK

with Owner and utility companies in keeping respective services and facilities in operation. Repair damaged utilities to satisfaction of utility Owner.

3. Do not interrupt existing utilities serving facilities occupied or used by Owner and others, during occupied hours, except when permitted in writing by Owner and then only after acceptable temporary utility services have been provided. Provide minimum of 48-hour notice to Owner, and receive written notice to proceed before interrupting any utility.
4. Inactive utilities encountered or utilities abandoned during construction operations shall be removed, plugged or capped. The location of such utilities shall be noted on Record Drawings and reported in writing to the Landscape Architect.

1.11 DEFINITIONS

- A. Fill and backfill shall be, for the purpose of this Specification, considered interchangeable terms and shall mean material to be used to bring existing or construction grades up to finish subgrade levels.
- B. The words “finish grade” as used herein mean the required final grade elevations indicated on the Contract Drawings. Where not otherwise directed, areas outside buildings shall be given uniform slopes between points for which finish grades are shown, or between such point and existing grade, except that vertical curves or roundings shall be provided at abrupt changes in slope.
- C. The word “subgrade” as used herein, means the required surface of subsoil, borrow fill or compacted fill.
- D. “Trench shall be defined as an excavation of any length where the width is less than twice the depth. All other excavations shall be classified as open.
- E. "Unsuitable Materials" shall include the following:
 1. Pavements, utility structures, building foundations and other manmade structures.
 2. Peat, muck, organic silt and other organic materials subject to decomposition, consolidation or decay.
 3. Miscellaneous fill including cinders, ash, glass, wood, masonry, and metal.
 4. Ledge and boulders except as specified herein for fills.

PART 2 - PRODUCTS

2.01 SOIL MATERIALS

- A. Ordinary Borrow

1. Ordinary Borrow shall be used whenever fill or backfill is indicated on the Drawings, and to fill to achieve required subgrades.
 2. Ordinary Borrow shall conform to Ordinary Borrow as defined by the Massachusetts Standard Specifications for Highways and Bridges, M1.01.0.
- 2.02 This material shall have the physical characteristics of soils designated as group A-1, A-2-4 or A-3 under AASHTO-M145.
- 2.03 Ordinary fill shall be a natural soil, well-graded and free from all organic weak, compressible, and frozen materials, and shall contain no stone larger than two (2) inches in maximum dimension. It shall be of such nature and character that it can be dried and compacted and shall be free of all expansive materials (such as high plastic clays) and of materials subject to decay, decomposition, or dissolution, and shall conform to the following gradations:

2.04	<u>U.S. Sieve No.</u>	2.05	<u>% Passing by Weight</u>
2.06	2 inch	2.07	100%
2.08	#4	2.09	20-75%
2.010	#40	2.011	0-25%
2.012	#200	2.013	0-5%

1. Material from excavation on the site meeting the above requirements as evidenced by testing may be used as "Suitable backfill" provided it has not been contaminated with unsuitable material.
- B. Dense grade leveling course under bituminous concrete paving shall conform to "Dense Grade Leveling Course" M2.01.7 of the Mass Standard Specifications for Highways and Bridges with the following gradation:

2.014	<u>Sieve Designation</u>	2.015	<u>Percent Passing</u>
2.016	2 inch	2.017	100
2.018	1-½ inch	2.019	70-100
2.020	¾ inch	2.021	50-85
2.022	No. 4	2.023	30-55
2.024	No. 50	2.025	8-24
2.026	No. 200	2.027	3-10

- A. Aggregate Base Course, Aggregate Backfill & Gravel:

1. Where Aggregate Base Course, Aggregate Backfill or Gravel is indicated on the Drawings, this material shall conform to the requirements of M1.03.0 Gravel Borrow, Type C of the MHD Standard Specifications except that the largest stone dimension shall be one and one-half (1-1/2) inch. Gravel shall consist of inert material which is hard durable stone and coarse sand, free from loam, clay, organic material, surface coatings, trash, frozen materials and deleterious materials. Gradation requirements are as

follows:

2.028 <u>Sieve Designation</u>	2.029 <u>Percent Passing</u>
2.030 1 inch	2.031 100
2.032 ½ inch	2.033 50-85
2.034 No. 4	2.035 30-60
2.036 No. 50	2.037 8-28
2.038 No. 200	2.039 0-10

- A. Where dense-graded crushed stone is indicated on the Drawings, this material shall conform to the requirements for Dense-Graded Crushed Stone for Subbase, M2.01.7 of the MHD Standard Specifications, with the following gradation:
- B. Reclaimed Pavement Material shall be sound, durable, crushed asphalt pavement meeting M1.03.0 free from organic, frozen, or other deleterious materials, conforming to the requirements of the Massachusetts Highway Department Section M1 and meeting the following gradation requirements M1.09.0 as modified below.

<u>Sieve Designation</u>	<u>Percent Passing</u>
3 inch	100
1-1/2 inch	70-100
3/4 inch	50-85
No. 4	30-60
No. 50	8-24
No. 200	0-10

- C. Crushed Stone for all other uses shall conform to the requirements of M2.01.0 Crushed Stone of the MHD Standard Specifications, sized as indicated on the Drawings, with gradation for size as required by the Standard Specifications.

PART 3 - EXECUTION

3.01 LAYOUT

- A. Layout site improvements as required in Section 01 71 23 - Field Engineering.
- B. The Contractor shall inform the Landscape Architect when the general layout is completed and shall not begin excavation until the various alignments are approved by the Landscape Architect. Any discrepancies encountered in field conditions shall be reported to the Landscape Architect immediately.
- C. The Contractor shall be responsible for maintaining the correct vertical and horizontal alignment of all elements, which responsibility shall not be waived by the Landscape Architect's approval of basic layout and stakeout.

3.02 PROTECTION

- A. The Contractor shall assume complete responsibility and liability for the safety and structural integrity of all work and utilities to remain during the performance of all work.
- B. The Contractor shall provide safeguards including, but not limited to, warning signs, barricades, temporary construction fences, warning lights and other items required for protection of personnel and the general public during the performance of all work.
- C. The Contractor shall provide barricades for substantial construction in accordance with safety regulations of authorities having jurisdiction and or insurance requirements.
- D. All features related to protection shall be maintained until that unit of work has been completed to the point that the danger no longer exists as approved by the Landscape Architect.

3.03 GRADING WITHIN THE DRIPLINE OF EXISTING TREES TO REMAIN

- A. Refer to Section 02 01 00 - Existing Trees to Remain for notification and procedural requirements.

3.04 EXCAVATION

- A. Excavation is "Unclassified", and shall include excavation to subgrade elevations indicated on the Drawings, or required to accommodate new construction, regardless of the character of materials and obstructions encountered and shall be understood to include rock and boulders, shale, boulders, earth, hardpan, fill, foundations, pavements, curbs, piping and debris, except as follows:
 - 1. Notify the Landscape Architect prior to proceeding if materials greater than 1 cubic yard in size are encountered.
 - 2. Excavation of rock, stone, ledge, parts of stone, brick or cement concrete slabs greater in size than 1 cubic yard and which cannot be excavated without the use of hydraulic rippers, hammering or breaking, the size of which could not be determined from surface inspection, will be paid for at the Contract Unit Price per cubic yard for Rock Excavation due to unanticipated subsurface conditions, or adjustment may be made to the layout to avoid excavation of same.
- B. Unauthorized Excavation: When suitable bearing material is encountered at subgrade elevations shown and excavation is made to greater depth, bring grade back to elevation required by providing appropriate fill material at no additional cost.
- C. When excavation has reached required subgrade elevations, notify the Landscape Architect.

- D. If the “assumed” bearing materials are not encountered at the subgrade elevations indicated, additional excavation work may be authorized by the Owner. Do not perform additional excavation unless directed by the Landscape Architect in writing. Removal of unsuitable material and its replacement with proper backfill, if directed in writing by the Landscape Architect, will be paid for as an adjustment of the Contract price due to unanticipated subsurface conditions.
- E. During excavation, do not damage roots of trees which are to remain. When excavating or trenching within the branch spread of trees scheduled to remain, hand dig in a manner which will cause minimum damage to root systems. Do not cut tree roots over 2 inches in diameter. Do not leave surface roots exposed. Prune injured roots clean and backfill as soon as possible to the satisfaction of the Landscape Architect and Owner.
- F. Slope sides of excavations to comply with local codes and ordinances having jurisdiction. Shore and brace where sloping is not possible because of space restrictions, stability of material excavated, or depth of excavation.
- G. Dewatering: Prevent water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area. Under no circumstances lay pipe or install appurtenances in water. Keep all trenches free from water until they have been backfilled.
- H. Materials Storage: Stockpile satisfactory excavated materials where directed until required for backfill or fill. The Landscape Architect shall approve the location of all stockpiles prior to placement. Place, grade and shape stockpiles for proper drainage.
 - 1. Locate and retain soil materials away from edge of excavations. Do not store within drip line of trees to remain.
 - 2. Legally dispose of excess soil material and waste materials off-site.
- I. Frost Protection
 - 1. Make no excavations to fill depth indicated when freezing temperature may be expected unless intended improvements can be accomplished immediately after the excavations have been completed. Protect bottom so excavated from frost if progress is delayed. Should protection fail, remove frozen materials, and replace with gravel as directed at no cost to the Owner.
 - 2. Keep the site clear and free of accumulations of snow within the limit of the Contract lines as necessary to carry out the work of the Contract.
 - 3. Fill materials containing frost shall not be utilized, nor shall filling be done over frozen materials.

3.05 BACKFILL AND FILL

- A. Backfill excavations as promptly as work permits, but not until completion of the following:
 - 1. Acceptance of construction below finish grade by Landscape Architect.
 - 2. Inspection, testing, approval and recording locations of underground utilities to the satisfaction of the Landscape Architect.
 - 3. Compaction testing of subgrade if required at that location.

3.06 PLACEMENT OF FILL

- A. Placement: Place backfill and fill materials in uniform lifts of not more than 12 inches in loose depth for ordinary fill, 8 inches in loose depth for other materials compacted by heavy compaction equipment, not more than 6 inches in loose depth for material compacted by hand operated tampers.
 - 1. Coordinate backfilling with the installation of the work of all trades.
 - 2. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or relative dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
 - 3. Place backfill and fill materials evenly adjacent to structures, piping or conduit to required elevations. Take care to prevent wedging action of backfill against structures or displacement of piping or conduit by carrying material uniformly around structure, piping or conduit to approximately the same elevation in each lift.
 - 4. Backfill by hand around pipe and for a depth of one (1) foot above the pipe. Use earth without rock fragments or large stones and tamp firmly in layers not exceeding 6 inches in thickness, taking care not to disturb the pipe. Compact the remainder of the backfill thoroughly with a rammer of suitable weight or with an approved mechanical tamper, or if the soil is granular, by flooding, provided that under pavements, walks and other surfacing, the backfill shall be tamped solidly in layers not exceeding 6 inches in thickness.
 - 5. Compact backfill to match adjacent areas as specified above. Correct settlement of fill by filling to subgrade levels in all areas where settlement occurs.

3.07 COMPACTION

- A. Refer to Paragraph 1.07 this Section, for Compaction Testing Requirements for subgrade and crushed stone base of playground area.
- B. Compact soil to not less than the following percentages of maximum density of soils in accordance with ASTM D1557, Method C or AASHTO T-180.
 - 1. Subgrade and base courses under all areas (with the exception of planting beds), utility trench backfill, fill at base and around footings, and curb subgrade: Compact each layer of backfill or fill material to 95 percent of maximum dry density.
 - 2. Planting beds: Compact to 85 percent of maximum dry density.
- C. Moisture Control: Where subgrade or layer of soil material must be moisture conditioned before compaction, uniformly apply water to surface of subgrade or layer of soil material, to prevent free water from appearing on surface during or subsequent to compaction operations. Remove and replace soil material that is too wet to permit compaction to specified density.

3.08 SUBGRADE PREPARATION AND GRAVEL PLACEMENT FOR PAVEMENTS

- A. Clean the rough subgrade of all loose, soft, foreign, or other unsuitable material and reshape as required. Add suitable fill material to meet required grade.
- B. Compact to required grades and sections for paving. Tamp traces of trenches. Remove spongy or otherwise unsuitable material and replace with approved material. Loosen exceptionally hard spots and re-compact. Take every precaution to obtain a foundation of uniform bearing power. In absence of specific requirement, compact foundation by such means as will provide firm base and insurance against settlement of superimposed work.
- C. Roll longitudinally at sides, overlapping each pass by one-half of rear wheel. Fill all depressions or settlements which occur. Continue until all stones are firmly interlocked and surface is true and unyielding. After final rolling, surface is to be free of depressions or irregularities greater than 3/8 inch in ten (10) feet.
- D. Construct base course as detailed on the Contract Drawings for all areas of new paved surfaces in this Section. Placement of gravel base course shall conform to the requirements of MHD except as herein modified.
- E. Spread gravel from self-spreading vehicles, approved type of power grader or by hand upon prepared sub-grade. Spread evenly in layers so as to avoid separation of aggregates. Layers shall not exceed six (6) inches in depth after compaction. Remove stones larger than four (4) inches. When spread and rolled on the prepared surface, it shall form a stable surface. Compaction shall have a density of not less than 95% of maximum density determined in accordance with ASSHTO-T-180 Method D. All rolling shall be done with a roller weighing 8 to 10 tons. Compact any portion which is not accessible to a roller by mechanical or

hand tamper.

- F. Final rolled surface shall be true to the lines and grades indicated on the Contact Drawings or as directed by the Landscape Architect. Fill any depression that may appear during and after rolling with gravel and re-roll until the surface is true and even. Tolerance shall be 3/8 inch maximum above or below the cross-section grades and 3/8 inch maximum under a 10-foot line longitudinally except that:
 - 1. Tolerance for grades of crushed stone base course shall be as required by the safety surface installer/manufacturer.
- G. Maintain the surface of any layer in its finished condition until succeeding layer is placed. Properly drain the sub-base at all times.

3.09 GRADING

- A. The Contact Drawings indicate, in general, alignment and finish grade elevations. The Landscape Architect, however, may make such adjustments in grades and alignments as are found necessary in order to avoid interference with any special conditions encountered.
- B. Uniformly grade areas within limits of grading under this section, including adjacent transition areas. Smooth finished surface within specified tolerances, compact with uniform levels or slopes between points where elevations are indicated, or between such points and existing grades.
 - 1. Final finish grading of large lawn and field areas shall be with laser-guided equipment to achieve.
- C. Grade areas to drain away from structures and to prevent ponding. Finish surfaces free from irregular surface changes, and as follows:
 - 1. Paved areas: Shape surface of areas under paved surfaces to line, grade and cross section to provide finished grades of pavements within tolerances specified.
- D. Compaction: After grading, compact subgrade surfaces to the depth and indicated percentage of maximum or relative density for each area classification.
- E. Complete grading operations after utilities have been installed, site improvements included under this Contract have been completed and all rubbish, materials and debris have been properly disposed of.
- F. Do all cutting, filling, reshaping, re-grading and re-compacting as necessary to meet the requirements of the Contract Drawings and this Section of the specifications. Maintain sub-grades at the levels specified until turned over to subsequent construction. Bring to required sub-grade levels any areas where settlement, erosion or other grade changes occur.

3.10 PROTECTION AND REPAIR

- A. Protect newly graded areas from traffic and erosion. Keep free of trash and debris.
- B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify surface, reshape, and compact to required density prior to further construction.
- C. Whenever streets, lawns, sidewalks, or improvements outside the Contract Limit of Work Line 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 conditions in accordance with the governing authority. Notify the proper authorities prior to restoring surfaces outside the Contract Limit of Work.
- D. Do all repairs and restoration to pavements, curbs, and other work inside and outside of the project site damaged by the work under this Contract and restore all existing work to a condition at least equal to the condition specified for this Contract for such improvements.

3.11 CLEANUP

- A. Keep all work areas free from accumulation of debris during the course of work under this Section.
- B. At the completion of the Work of this Section, properly and legally dispose of all excavated materials, all rubbish, debris, waste materials from, and about the site, building, and structures, including tools, scaffolds, apparatus, and appliances used in connection with work under this Section and leave the premises in a clean condition.

END OF SECTION

SECTION 32 12 16

BITUMINOUS CONCRETE PAVING TO BE PROVIDED BY OWNER

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.
- B. Examine and coordinate all Contract Drawings and other section of the specifications for requirements which affect work of this section whether or not such work is specifically mentioned in this section. Coordinate work with other trades to assure the steady progress of all work under the Contract. The Contractor shall refer to the Contract Documents for all new work and coordinate how it relates to the paving.

1.02 SCOPE OF WORK

- A. Work under this Section shall include all labor, materials, services, equipment, transportation and accessories and the performance of all operations necessary to complete the work of this Section, as indicated on the Contract Drawings and/or as specified herein.
- B. The work shall include, but is not limited to, the following:
 - 1. Installation of bituminous concrete pavement for walkways, pickleball, and tennis courts shall be provided by the Owner, provided by J.H. Lynch & Sons, Inc., 18 McCracken Rd, Millbury, MA 01527, (508) 756-6244.

1.03 RELATED WORK

- A. Section 02 41 00 – Site Preparation and Demolition
- B. Section 11 66 00 – Athletic Equipment
- C. Section 31 00 00 – Earthwork: Aggregate Base Course

1.04 REFERENCE STANDARDS

- A. Work shall comply with the minimum standards of the latest editions of the following codes and specifications, subject to modifications and amendments outlined herein.
 - 1. MHDSS: Standard Specifications: Commonwealth of Massachusetts, Department of Public Works, Standard Specifications for Highways and Bridges, latest edition.
 - 2. ASTM: American Society for Testing and Materials.
 - 3. AASHTO: American Association of State Highway and Transportation

Officials.

4. Federal, State and/or Municipal Codes
5. Public Safety Codes
6. U.S. Public Health Service
7. National Electric Manufacturers Association
8. American National Standards Institute
9. American Society of Mechanical Engineers
10. Commercial Standards
11. Federal Specifications
12. Occupational Safety and Health Regulations
13. ADA: Americans with Disabilities Act

1.05 QUALIFICATIONS

- A. Installer: Company specializing in performing the work of this section with documented experience on at least two similar projects.

1.06 EXAMINATION OF SITE AND DOCUMENTS

- A. By submitting a bid, the Contractor affirms that he/she has carefully examined the site and all conditions affecting Work under this Section. No claim for additional costs will be allowed because of lack of full knowledge of existing conditions.
- B. Plans, surveys, measurements, and dimensions under which the work is to be performed are believed to be correct, but the Contractor shall have to examine them for him/herself during the bidding period, as no additional compensation will be made for errors or inaccuracies that may be found therein.

1.07 SUBMITTALS

- A. The Contractor shall provide the following submittals for approval in conformance with requirements of SECTION 01 33 00, SUBMITTALS. Do not order materials until Landscape Architect's approval of submittals, certifications or test results have been obtained. Delivered materials shall closely match the approved submittals.
 1. Submit the bituminous concrete design mix for each application, indicating aggregate sizes and proportions.
 2. Manufacturer's literature for tack coat demonstrating compliance with the specifications.

1.08 PERMITS AND CODES

- A. All work shall be as shown in the Contract Drawings and Specifications and shall comply with applicable codes and regulations at the local, county, state, and federal levels. All labor, materials, equipment, and services necessary to make the Work comply with such requirements shall be provided without additional cost to the Owner.

- B. The Contractor, under this Section, shall be responsible for providing and filing all Plans, Specifications, and other documents, pay all requisite fees and secure all permits, inspections, and approvals necessary for legal installation and operation of the systems and or equipment finished under this Section.

1.09 CONDITIONS OF WORK

- A. Conduct the work giving consideration to protection of the public, protection of the existing work from weather; control of noise, shocks, and vibration; control of dirt and dust; orderly access and storage of materials; protection of existing buildings; protection of adjacent buildings and property. Coordinate work and cooperate with the Owner and Landscape Architect at all times.
- B. Schedule paving in connection with the progress schedule required by the General Conditions.

PART 2 - PRODUCTS

2.01 BITUMINOUS CONCRETE PAVEMENT

- A. Subbase for bituminous concrete shall be Dense-graded Crushed Stone for Subbase as specified in Section 31 00 00 - Earthwork.
1. Subgrade and subbase shall be installed, compacted and tested as required in Section 31 00 00 - Earthwork.
- B. Bituminous concrete shall meet the general standards of Section M3 of the MADOT –Highway Division Standard Specification for Highways and Bridges, 2023 Edition and specifically as follows:
1. Emulsion for Tack Coat: M3.03.0.
2. Aggregate: M3.11.2.
3. Hot Mix Asphalt Design: M3.11.4.
- C. Aggregate sizes and gradation for mixes for courts and walkways shall be as follows:

1. Dense Binder Course:

Sieve Size	% Passing
1"	100
¾"	87-93
½"	72-73
#4	55-58
#8	41-45
#30	21-26
#50	14-18
#200	2-4
%Binder	5.4-5.6

BITUMINOUS CONCRETE PAVING

2. Top Course:
- a) Top course shall contain 0% recycled material.
 - b) Top course shall contain anti-strip additive.

Sieve Size	% Passing
1"	100
¾"	87-93
½"	72-73
#4	55-58
#8	41-45
#30	21-26
#50	14-18
#200	2-4
%Binder	5.4-5.6

PART 3 - EXECUTION

3.01 PREPARATION

- A. Make any corrections necessary to base material furnished and placed under SECTION 31 00 00 EARTHWORK, to bring base course materials to sections and elevations shown on the Contract Drawings.
- B. The contact surfaces of curbs, walls, manholes, catch basins or other appurtenant structures in pavement shall be painted thoroughly with a thin uniform coating of tack coat just before any bituminous mixture is placed against them.

3.02 PATCHES AND NEW PAVING ABUTTING EXISTING

- A. Where the line of demarcation between new and existing paving occurs, the existing paving shall be saw-cut to provide a clean sharp joint. The pavement shall be sawn by an approved machine to a depth which will permit the cutting of the pavement without damage to the pavement left in place.
 - 1. Protect sawn edges of paving from damage until new paving is placed against it. Existing pavement, which is damaged, disturbed or settled, shall be cut back by the same method and replaced as directed by the Landscape Architect without additional cost to the Owner.
- B. Where new bituminous paving meets existing paving the finish grades in the new work shall be adjusted, if necessary, to blend smoothly with the existing pavement. Seal joint at saw-cut line with an approved bituminous emulsion. Notify the Landscape Architect of discrepancies before proceeding with the work.

3.03 PLACEMENT

- A. The mixtures shall be placed and compacted only at such times which permit the

BITUMINOUS CONCRETE PAVING

proper inspection and checking by the Landscape Architect.

- B. The mixtures shall be placed only upon approved surfaces that are clean and dry, and when weather conditions are suitable. No bituminous material shall be applied when the temperature is below 32 F.
- C. The temperature of bituminous concrete mixture when delivered to the site shall conform to the following, with a tolerance of plus or minus 20 F.

<u>Air Temperature</u>	<u>Project Delivery Temperatures</u>
35F	300F
40F	290F
6SF	280F
90 F, or over	270F

- D. Place courses of bituminous concrete in conformance to application and depth requirements shown on the Contract Drawings and specified herein. Depths referenced shall be compacted thicknesses. Bituminous concrete for binder course and wearing or top course shall be furnished and laid in accordance with Section 460 of the Standard Specifications, and as directed herein and by the details.

3.04 SPREADING

- A. The equipment for spreading and finishing shall be mechanical, self-powered pavers, capable of spreading and finishing the mixture true to lines, grade, width and crown by means of fully automated controls for both longitudinal and transverse slope.
- B. Mixtures shall be deposited in a mechanical spreader and immediately spread thereby, and then struck off in a uniform layer to the full width required and of such depth that each course, when compacted, shall have the required thickness, and shall conform to the grade and cross section contour specified.
- C. Hand Spreading: Spreading by hand methods will be permitted only for particular locations in the work which because of irregularity, inaccessibility or other unavoidable obstacles do not allow mechanical spreading and finishing.
- D. Compaction:
 - 1. After the paving mixture has been properly spread, compaction shall be obtained by the use of power rollers of approved design and weight per inch of roller. The rollers shall be steel wheeled supplemented with pneumatic-tired rollers where required.
 - 2. Along curbs, structures, and places not accessible with a roller, the mixture shall be thoroughly compacted with mechanical tamping devices. The surface of the mixture after compaction shall be smooth and true to the established line and grade.

3. The densities of the completed pavement shall be not less than 95% of the density obtained from laboratory compaction of a mixture composed of the same materials in like proportions.
- E. All areas of finished paving on which water stands or which are found excessively uneven shall be promptly brought to the correct grade and line.
- F. When tested with a ten (10) foot straightedge there shall be no deviation from true surface planes represented by the grade elevations shown on the Contract Drawings in excess of one-quarter ($\frac{1}{4}$) inch.
- G. Do any repair or patching to pavements outside the project site damaged by work of the contract. All patching work required shall be in accordance with requirements for new construction.
- H. No vehicular traffic of any kind shall be allowed to pass over the newly finished surface until it has had time to set. Twenty-four (24) hours will be considered sufficient time for the pavement to set in most cases, but this period may be extended by the Landscape Architect/Engineer as required by weather or other reasons.
- I. Install frames and rims after installation of binder course for bituminous concrete pavement. Install wearing course after the installation of the frames and rims. Frames and rims shall have the same grade and slope as adjacent construction.

3.05 QUALITY ASSURANCE

- A. The Landscape Architect may require the Contractor to remove and replace at the Contractor's expense any defective mix not conforming to the specified job mix formula.
- B. If, at any time before the final acceptance of the work, any soft, imperfect places or spots shall develop in the surface, all such places shall be removed and replaced with new materials and then compacted until the edges at which the new work connects with the old become invisible, at no additional expense to the Owner.

3.06 CLEAN-UP

- A. Keep all work areas free from accumulation of debris during the course of work under this Section.
- B. At the completion of the paving, all rubbish, debris, waste materials from, and about the site, building, and structures, including tools, scaffolds, apparatus, and appliances used in connection with work under this Section shall be legally disposed of and the premises shall be left in a clean condition.

END OF SECTION

BITUMINOUS CONCRETE PAVING

32 12 16 -6

SECTION 32 12 36

COLOR COATING

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.
- B. Examine and coordinate all Contract Drawings and other section of the specifications for requirements which affect work of this section whether or not such work is specifically mentioned in this section. Coordinate work with other trades to assure the steady progress of all work under the Contract. The Contractor shall refer to the Contract Documents for all new work and coordinate how it relates to this Section.

1.02 SCOPE OF WORK

- A. Work under this Section shall include all labor, materials, services, equipment, transportation and accessories and the performance of all operations necessary to complete the work of this Section, as indicated on the Contract Drawings and/or as specified herein.
- B. The work shall include, but is not limited to, the following:
 - 1. Color coating and line marking of pickle ball courts and tennis courts.

1.03 RELATED SECTIONS

- A. Section 32 12 16: Bituminous Concrete Paving

1.04 SUBMITTALS

- A. Submit the following in accordance with the requirements of the General Conditions:
 - 1. Paint: Submit manufacturer's product data demonstrating specification compliance for line paint and fortified and non-fortified paint for area painting.
 - (a) Submit color samples of manufacturer's standard colors for final selection by the Owner.
 - 2. Submit manufacturer's directions for application, including permissible temperature for application and storage, drying time, coating thickness and application rates, and period of curing time prior to application to new bituminous concrete.

COLOR COATING

3. Submit installer name and evidence of qualifications.

1.05 REFERENCES

- A. Massachusetts Highway Department Standard Specifications for Highways and Bridges, 2023 edition.

1.06 QUALIFICATIONS

- A. Installer shall be from a company with at least 5 years' experience in commercial painting.

1.07 REGULATORY REQUIREMENTS

- A. Materials and handling of paint shall conform to all environmental and OSHA regulations.

1.08 DELIVERY STORAGE AND HANDLING

- A. All packaged materials shall be delivered to the site in original unopened containers clearly indicating manufacturer name, brand name, and other identifying information. Paint shall be stored within the temperature ranges indicated by the manufacturer.

1.09 ENVIRONMENTAL REQUIREMENTS

- A. Paint shall be applied within the temperature ranges recommended by the paint manufacturer.

PART 2 - MATERIALS

2.01 PAINT

- A. Paint for marking lines shall be factory-mixed non-bleeding paint specifically formulated for marking asphaltic concrete surfaces for line painting.
 1. Paint shall be 100 percent acrylic latex emulsion type, containing no alkyds, butadiene styrene, or vinyls and shall be thinned with water only. The paint shall be suitable for use over all types of bituminous surfaces, including weathered bituminous. When applied over bituminous concrete it shall not cause lifting, cracking, peeling, or other damage to the pavement. Thicknesses of coats shall be in accordance with manufacturer's recommendations. Acceptable manufacturers California Paints, Neyra Industries, The Glidden Co., or equal.
 - a) Colors shall be as noted on the Drawings.
 2. Paint for area color coating shall be a fortified 100% acrylic latex emulsion with silica additive. Acceptable manufacturers California

COLOR COATING

Paints, Nova Sport, Dalton Enterprises, Inc., or equal. Paint shall contain no alkyds, butadiene styrene or vinyls and shall be thinned with water.

- a) Fortification shall be by addition of silica sand, pre-mixed at manufacturer's plant. No sand or silica shall be added to the emulsion in the field.
- 3. Finish coat shall be as described above except that it shall be a non-fortified acrylic latex emulsion.
- 4. Color: Pigment dispersions in the color coating are to be of the best quality chrome oxides so as to obtain a permanent true color. Colors for area color coating shall be:
- 5. Colors for court shall be as shown on the Drawings.

PART 3 – EXECUTION

3.01 INSPECTION OF PAVEMENT

- A. Installer shall verify that paved surfaces are installed to correct slopes, grades, and tolerances prior to the application of color coating system. Prior to application of the color coating system, the applicator shall evaluate the paved surface for compliance with the specifications and construction documents and notify the Landscape Architect and Owner of any deficiencies. Work shall not proceed until unsatisfactory conditions are corrected.

3.02 APPLICATION – GENERAL

- A. Paint shall be applied according to manufacturer's instructions. Adhere to manufacturer's recommended curing period for new bituminous pavement prior to paint application which is generally a minimum of 28 days.
- B. Pavement surface should be dry and free of sand, grease, oil and other foreign substances prior to the application. The ambient air temperature is to be a minimum of 45 degrees Fahrenheit and rising at the start of paint application. Do not apply paint when rain is imminent.
- C. Thickness of each coat shall be as recommended by the manufacturer.
- D. Paint shall be applied by brush, spray, or roller, free of any fogging or overspray.

3.03 AREA PAINTING

- A. Sweep and air clean area to be surfaced.
- B. Apply two coats of fortified surface paint at a rate of approximately .05 gallon per square yard per coat, minimum, with additional coats as necessary to cover

COLOR COATING

previous design.

- C. Apply one coat of non-fortified finish paint at a rate of approximately .05 gallon per square yard.
- D. Apply line paint as described below.

3.04 LINE PAINTING

- A. Width of lines shall be 2".
- B. Lines shall be accurately located and marked by snapping a chalked line. All surfaces shall be thoroughly cleaned before the lines are painted thereon. The paint shall be applied accurately within the limits shown on the plans. All lines shall be clear and distinct with sharply defined edges. At least two (2) hours shall elapse between the painting of the first and second coats. Protect painted lines until cured.
- C. Edges of lines to be painted shall be masked prior to painting to insure sharp edges. Ragged lines will not be acceptable.
- D. Apply two coats of line paints in specified color.
- E. Remove masking tape and clean-up work area.

3.05 GUARANTEE AND ACCEPTANCE

- A. Painted lines and surfaces shall be guaranteed for a period of one year from final acceptance against cracking, peeling, checking, or other defects. The Contractor will repair, re-coat or otherwise make satisfactory, any failed lines or areas, at no cost to the Owner.

END OF SECTION

SECTION 32 31 13

CHAIN LINK FENCE & GATES

PART 1 - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.
- B. Examine and coordinate all Contract Drawings and other sections of the specifications for requirements which affect work of this section whether or not such work is specifically mentioned in this section. Coordinate work with other trades to assure the steady progress of all work under the Contract.

1.02 WORK INCLUDED

- A. Work under this Section includes:
 - 1. Furnishing and installing vinyl-clad chain link fence and gates in the heights and locations shown on the drawings.

1.03 RELATED WORK

- A. Section 02 41 00 - Site Preparation and Demolition
- B. Section 31 00 00 - Earthwork
- C. Section 03 30 00 - Cast-in-Place Concrete

1.04 SYSTEM DESCRIPTION

- A. Vinyl coated chain link fence and gates, 9 gauge prior to coating.

1.05 REFERENCES

- A. Chain Link Fence Manufacturer's Institute (CLFMI) Guide for Specifying Commercial, Industrial and Security Chain Link Fence and Gates.
- B. ASTM F567-14a Standard Practice for Installation of Chain Link Fence

1.06 SUBMITTALS

- A. Submit manufacturer's product literature demonstrating compliance with the Specifications.

1.07 DELIVERY, STORAGE AND HANDLING

- A. Packaged materials shall be delivered to the site in original, unopened, and unaltered containers clearly indicating the manufacture, brand name, lot or serial

CHAIN LINK FENCE & GATES

number and other identifying information.

- B. Materials shall be stored in a dry location, off the ground and in such a manner as to prevent damage, intrusion of foreign matter and weather. All materials which have become damaged or otherwise unfit for use during delivery or storage shall be replaced at the expense of the Contractor.
- C. The Contractor shall be responsible for timing the delivery of items so as to minimize onsite storage time prior to installation. Stored materials and items must be protected from the weather, careless handling, and vandalism.
- D. Contractor shall handle, pack and transport in a manner to minimize damage to the finish of materials. Upon arrival at the job site, it is the responsibility of the contractor to take equal precautions. Should minor damage occur to the finish the contractor shall restore damaged finishes and test for proper function. Clean and protect work from further damage.

PART 2 - PRODUCTS

2.01 VINYL COATED CHAIN LINK FENCE AND GATES

- A. Fabric shall meet the following requirements as a minimum:
 - 1. Wire gauge shall be 9 gauge **prior to PVC coating**.
 - 2. Wire finish: Wire shall have a polyvinyl chloride (PVC), plastic resin finish, factory applied over galvanizing prior to fabrication of fabric. Thickness of PVC coating shall be not less than 7 nor more than 20 mils thick. PVC coating shall be applied by the thermal fusion method over a thermoset plastic bonding agent. The bond shall exhibit equal or greater strength than the cohesive strength of the vinyl. All cut ends shall be coated with vinyl at the factory. PVC coated wire shall be capable of being woven into fabric without the PVC coating cracking, crazing, or peeling. Color shall be black.
 - 3. Top and bottom selvages shall be knuckled.
- B. Framework (Posts, Rails, and Gate Frame)
 - 1. Steel parts shall be hot-dipped galvanized inside and out prior to vinyl coating.
 - a) Round pipe shall be Type 1, ASTM F 1083 round cold-formed steel standard weight Schedule 40, Minimum yield strength shall be 30,000 psi. Galvanizing shall conform with ASTM A-120 standard weight Schedule 40 except the hydrostatic testing requirement is waived.

2. Galvanized steel parts shall be coated with a polyvinyl chloride (PVC) plastic resin finish. PVC coating for framework shall meet the above specifications for fabric coating. Frame color shall match fabric color.
3. Sizes for fence posts, gate frames and other framework members shall be as shown on the Drawings.

a) Weights for posts shall be as follows:

Outside Diameter (Inches)	Minimum Pounds per Foot Tolerance $\pm 5\%$
1.66	2.72
2.375	3.65
2.875	5.79
3.5	7.58
4.00	9.11

Provide continuous top rails in manufacturer's longest lengths, with expansion type couplings for each joint. Provide necessary fittings for attaching top rail to each gate, corner, pull and end post.

C. Hardware and accessories: Provide galvanized (ASTM A153) PVC-coated accessories and hardware, with the exception of nuts and bolts. Nuts and bolts shall be galvanized and powder-coated to match fabric color. Coating for all other parts shall meet the above specifications for fabric coating.

1. Post Tops: Galvanized, pressed steel or malleable iron, weather tight closure caps, 1 top for each post. Where top rail is used, provide tops with openings to accommodate top rails. Provide one (1) rounded cap for each end, corner, or gate post.
2. Stretcher Bars - One-piece lengths with minimum cross section of 3/16" x 3/4". Provide one (1) cross stretcher bar for each end post and two (2) for each corner and pull post.
3. Stretcher Bar Bands - Heavy pressed steel or malleable iron of 1/8" x 3/4" minimum cross section and be of sufficient size to secure stretcher bars to end, corner and pull posts.
4. Rail clamps to be standard clamps (boulevard clamps) furnished complete with fasteners with ASTM Designation A153.
5. Rail brace ends: Formed steel, malleable or cast iron, for connection of rail and brace to posts.

6. Ties - Fabric shall be attached using "Bandit" multi-lock cable ties as furnished by Hin and Coon of Boston, MA (Tel 617-268-1010), or an approved equal. Multi-lock cable ties shall match color of fence fabric.
- D. Concrete for footings shall conform to the requirements of Section 03300-Cast-in-Place Concrete. Compressive strength shall be 4,000 psi minimum.

2.02 CHAIN LINK SWING GATES

- A. Hinges: Structurally capable of supporting gate leaf and allow opening and closing without binding. Hinge shall permit gate to swing 180° inward.
 1. Latches for double gates: Provide drop bolt and latch as detailed on the drawings, and padlock keyed into the Millbury Public School's system.
 2. Hinges for single leaf pedestrian gates shall be self-closing.

PART 3 - EXECUTION

3.01 GENERAL

- A. Install and fasten materials and systems in proper relation with adjacent construction and with uniform appearance. Items shall be installed in a level, plumb condition, true to the lines and grades shown on the Contract Drawings.

3.02 FENCE INSTALLATION

- A. Rails - All rails, top, bottom, middle (where required) shall form a continuous brace from end to end of each fence run. Couplings shall be located a maximum of 12" from line posts. All end and corner posts shall be braced to the nearest line post with center brace rails.
- B. Fabric - Dimension between finish grade and bottom selvage varies. Refer to drawings. Pull fabric taut and tie to posts and rails.
- C. Stretcher Bars - Thread through fabric and secure to posts with tension bands spaced as shown on the Drawings.
- D. Tie Wires - Wire shall be spaced as shown on the drawings and securely fastened by twisting around pipe to which attached, clasping and fasten firmly. Bend twisted ends of wire to minimize hazard to persons or clothing.
- E. Fasteners - Install nuts for tension band and hardware bolts on side of fence opposite fabric side.

3.03 GUARANTEE

- A. The Contractor shall cover the replacement of any damaged items or components,

at no extra charge for the period of one year.

END OF SECTION

SECTION 32 92 23

LAWN RESTORATION

PART I - GENERAL

1.01 GENERAL PROVISIONS

- A. Attention is directed to the General Conditions of the Contract, all Divisions of the Specifications, and the Contract Drawings, all of which apply to this section.

1.02 DESCRIPTION OF WORK

- A. The work of this Section shall include lawn restoration through sodding of lawn areas as indicated on the Drawings.
- B. Related Work
 - 1. Section 31 00 00 - Earthwork

1.03 SCHEDULING

- A. Sod shall be installed between April 1st to June 1 and August 15 to November 1st. No sodding or preparation of lawn beds shall be done when the ground is frozen. No preparation of lawn beds shall be done when the soil is wet or otherwise non-tillable. Lay sod within 24 hours of stripping. Do not lay sod if dormant or if ground is frozen.

1.04 QUALITY ASSURANCE

- A. Qualification of Landscape Contractor: The work of this Section shall be performed by a landscape contracting firm which has successfully installed work of a similar quality, schedule requirement, and construction detailing with a minimum of five years of experience.

1.05 REFERENCES

- A. The following standards shall apply to the work of this Section.
 - 1. MHD Standard Specifications: Massachusetts Highway Department Standard Specifications for Highways and Bridges, 1988 Edition.

1.06 DEFINITIONS

- A. Weeds shall include but not be necessarily limited to the following: Dandelion, Jimsonweed, Quackgrass, Morning Glory, Rush Grass, Mustard, Lambs quarter, Chickweed, Cress, Crabgrass, Canadian Thistle, Nutgrass, Poison Oak, Bermuda Grass, Johnson Grass, Poison Ivy, Nutsedge, Nimble Will, Bindweed, Bent Grass, Wild Garlic, Perennial Sorrel, and Brome Grass.

LAWN RESTORATION

1.07 DELIVERY, STORAGE AND HANDLING

- A. Sod: Harvest, store and handle sod according to the requirements of the American Sod Producers Association's (ASPA), "Specifications for Turfgrass Sod Materials and Transplanting/Installing.
- B. Seed: Deliver seed in original sealed, labeled, and undamaged containers.
- C. Between the time the sod is received on the site and its approval and the time of sowing, the Project Engineer will re-inspect and take representative samples of the sod from the supply to check on its quality. If any of the specified sods show signs of deterioration due to poor storage or mishandling, they will be rejected and shall be replaced at the Contractor's expense.

1.08 SUBMITTALS

- A. Submit the following in accordance with the requirements of Article V. 2 of the General Conditions and Section 01 33 00 Submittal Procedures:
 - 1. Submit proof of landscape contractor's experience to the Owner's Representative in accordance with Quality Assurance paragraph of this Section.
 - 2. Submit to representative samples, certifications, manufacturer's product data and certified test results for materials specified below. Materials shall not be ordered or delivered until the required submittals have been reviewed and approved. Delivered materials shall closely match the approved samples. Approval shall not constitute final acceptance. The Project Engineer reserves the right to reject, on or after delivery, any material which does not meet these Specifications.
 - 3. Submit manufacturer's Certificate of Compliance with each shipment of sod.
 - 4. Material Sampling and Testing:
 - a. Submit test results for on-site topsoil and off-site loam borrow. Testing will be at the Contractor's expense. Perform tests for organic content, and pH by UMASS Soil and Plant Tissue Laboratory, West Experiment Station, North Pleasant Street, University of Massachusetts, Amherst, MA 01003, (413) 545-2311 or by a private testing laboratory. Provide testing laboratory with plant list to obtain recommendations for soil additives for species being planted. Testing reports shall include the following:
 - 1) Percent of organic matter.
 - 2) Sieve analysis.
 - 3) Chemical analysis for Nitrate Nitrogen, Ammonium, Nitrogen, Phosphorus, Potassium, Calcium, Manganese, extractable Aluminum, Lead, Zinc, Cadmium, Copper, Soluble Salts, and acidity (pH) and buffer (pH).

LAWN RESTORATION

- 4) Recommendations for soil additives to correct soils deficiencies as necessary to accomplish planting work for the species of trees, grasses and perennials specified.
5. Fertilizer: Submit product manufacturer's data for fertilizer. Submit fertilization rates for fertilizer product based upon soil testing analysis.
6. Soil Additives: Submit manufacturer's product data for all soil additives needed to amend a specific soil in order to meet the requirements of this Section.
7. Seed and Sod: Submit supplier's certification demonstrating compliance with the Specifications.

PART 2 - MATERIALS

2.01 SOD

- A. Sod shall be of the previous year's crop and in no case shall the weed content exceed 1 percent. Sod shall contain the following percentages of grasses:

Kentucky Bluegrass	(4 improved named varieties)	80%
Perennial Ryegrass	(1 named improved variety)	10%
Fine Fescue	(3 named improved varieties)	10%
- B. Sod shall be nursery grown on agricultural land cultivated specifically for sod; free of objectionable grassy or broadleaf weeds (less than five such plants per 100 square feet); cut at a uniform minimum thickness of 3/4" inch (excluding top growth and thatch) at time of cutting; individual pieces cut to supplier's standard width and length with maximum allowable deviation of five percent.
- C. Sod with broken pad and torn or uneven edges will not be acceptable.

2.02 GRASS SEED FOR BLENDING EDGES

- A. Fresh, clean, dry, new crop seed complying with the Association of Official Seed Analysts' "Rules for Testing Seeds" for purity and germination tolerances.
 1. Seed mixture shall be mixed by an approved method and shall be composed of the following varieties mixed to the specified proportions by weight and tested to minimum percentages of purity and germination. Mixture shall be Poa Annua, bent grass and noxious weed seed free. Weed seed content shall not exceed 0.025% by weight of seed mixture.
 2. Grass Seed Mix shall be Triple A Tall Fescue Blend as supplied by Jacklin Seed or equal, consisting of 3 Tall Fescue named varieties equivalent in performance to 45% Inferno, 28% Arid and 27% Quest.
 3. Weed seed content shall not exceed 0.01%.

2.03 LOAM BORROW

- A. Loam borrow shall conform to the following:
1. Loam shall be a fertile, friable processed screened loam capable of sustaining vigorous plant growth. It shall be of uniform quality, free from an admixture of subsoil, stones larger than three-quarter inch (3/4")
 2. Loam shall be a "fine sandy loam" or a "sandy loam" determined by mechanical analysis and based on the USDA Soil Conservation Service Soil classification system. It shall be of uniform composition with no admixture of subsoil. It shall be obtained from naturally well-drained areas which have never been stripped before and have a history of satisfactory vegetative growth.
 3. Topsoil shall conform to the following grain size distribution for material passing the No. 4 sieve:

Percent Passing by Weight

U.S. Sieve No.	Maximum	Minimum
4	-	100
10	100	80
20	95	65
40	80	46
100	40	28
200	25	15
0.002mm	3	0

- B. The Organic content shall be between 3.5 and 6.0 percent by weight as determined by loss on ignition of test samples oven-dried to a constant weight at a temperature of 105 degrees, Centigrade. The PH value shall be between pH 6.0 and pH 6.5. It shall contain no toxic materials. Add soil amendments where required. All soil amendments shall be included in the Contractor's bid.

2.04 SOIL ADDITIVES

- A. Acidulant for adjustment of loam borrow pH shall be commercial grade flours of sulfite, ferrous sulfate, or aluminum sulfate that are unadulterated. Acidulants shall be delivered in unopened containers with the name of the manufacturer, material, analysis and net weight appearing on each container.
- B. Ground limestone for adjustment of loam borrow pH shall contain not less than eighty five percent (85%) of total carbonates and shall be ground to such fineness that forty percent (40%) will pass through 100 mesh sieve and ninety five percent (95%) will pass through a 20 mesh sieve. Contractor shall be aware of loam borrow pH and the amount of lime needed to adjust pH to specification in accordance with testing lab recommendations.
- C. Commercial fertilizer shall be a product complying with the State and United States fertilizer laws. Deliver fertilizer to the site in the original unopened

LAWN RESTORATION

containers bearing the manufacturer's certificate of compliance. Fertilizer shall contain not less than the percentages of weight of ingredients as recommended by the soil analysis.

2.05 FERTILIZER

- A. Fertilizer shall be a granular, non-burning type, recommended for grass, with fifty percent of the elements derived from organic sources; of proportion necessary to eliminate any deficiencies of topsoil. Fertilizers shall comply with both Federal and State fertilizer laws.
 - 1. Starter fertilizer for first application shall contain 20% nitrogen, 26% phosphoric acid, and 6% potash by weight, or as recommended by the soils analysis.
 - 2. Fertilizer for second application shall contain 5% nitrogen, 10% phosphoric acid, and 10% potash by weight or similar approved composition.

2.06 WATER

- A. Water for sodding to be supplied by the Owner.

PART 3 - EXECUTION

3.01 PREPARATION FOR SODDING

- A. Grading:
 - 1. All areas to be re-graded shall have been previously stripped. Provide depth of new topsoil as indicated on the Drawings.
 - 2. In areas of lawn disturbed by construction which are to be sodded, but which have not been stripped, remove existing grass, and harrow or roto-till the areas to a depth of 3 inches. Remove all debris and stones over 1 inch in the greatest dimension, re-grade, and add additional loam if necessary.
 - 3. Bring sub-grade to proper finished grade for application of sod, allowing for sod thickness. Finish grade shall meet flush with all adjacent finished grades and paved surfaces.
- B. Soil Additives:
 - 1. As determined by soil testing of existing and new loam, provide ground limestone where necessary for pH adjustment. The rate of application of the limestone will vary up to a maximum of 1 pound per square yard depending on the results of laboratory tests. Thoroughly incorporate the limestone into the layer of loam and the upper 1 inch of the underlying subsoil by harrowing and raking.
 - 2. After the application of ground limestone on the sod bed, fertilizer shall be

spread on the top layer of loam at the rate of 0.2 of a pound per square yard or as recommended by the soil analysis. The full depth of loam shall then be spaded or harrowed and graded to the required cross-section.

3. Final Grading: Compact the material equivalent to that produced by a hand roller weighing 75 - 100 pounds per square foot of width. Fill depressions caused by a settlement or compaction, and re-grade and compact until the surface is smooth, uniform, and at the required grades.
4. After the loamed areas have been prepared and treated as hereinbefore described, grass sod shall be installed.

3.02 SODDING

- A. Lay sod edge to edge with tightly fitted staggered joints. Stagger joints by a minimum of 3'-0". Handle sod in a manner to prevent loosening and separation of the loam from the roots. Do not stretch or overlap. Do not use broken pads or uneven ends. Roll freshly installed sod lightly to ensure contact with sub-grade, eliminate air pockets forming a smooth, uniform contiguous surface. Work sifted soil or fine sand into minor cracks between pieces of sod; remove excess to avoid smothering sod and adjacent grass. Settle the sod by watering and light rolling.
- B. Saturate sod with a fine water spray within 30 minutes of planting. During the first week, water daily or more frequently as necessary to maintain moist soil to a minimum depth of 1-1/2 inches below the sod.

3.03 MAINTENANCE OF SODDED AREAS

- A. Maintenance of sodded areas shall continue until the Owner's Occupancy of the site. Maintenance shall include as a minimum:
 1. Sufficient water to keep sodded areas moist at all times to a minimum depth of two inches. Increase watering duration during hot and extremely dry periods. Water sod in a manner to produce uniform coverage without causing erosion.
 2. Restrict pedestrian traffic from sodded areas until grass is established. Erect temporary signs and barriers as required and maintain these barriers throughout the guarantee period if necessary to protect lawn from foot traffic.
 3. Re-grade and re-sod as necessary. If patching of sod is required, patch shall be at least four square feet in size.
- B. First mowing shall be within 6-7 days after installation. Successive mowings shall not remove more than 33 percent of grass-leaf blade during a single mowing. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial mowing to maintain following grass height:
 1. Mow when grass height is from 2-1/2 to 3 inches high.
 2. Set mower at a cutting height of 2 inches.

LAWN RESTORATION

3. Mow with sharp mower blades to produce cleanly cut grass.
4. Collect and remove all grass clipping from mowings and dispose of off-site.

3.04 POST FERTILIZATION

- A. Apply fertilizer to lawn after first mowing and when grass is dry. Use fertilizer that will provide actual nitrogen of at least 1 lb. per 1000 sq. ft. of lawn area.

3.05 FINAL ACCEPTANCE OF LAWNS

- A. For final acceptance of lawns the following criteria must also be met:
 1. Maintenance requirements must have been fully met
 2. Sodded lawns must be healthy, well-rooted and established free of weeds, bare areas and surface irregularities.
 3. Lawn areas deemed not acceptable shall be replaced with the specified method of establishing lawn for that area (re-sodding).

END OF SECTION