

**RFP/BID # 2024-091**



**City of Warwick, Rhode Island  
Office of Housing and Community Development  
Oakland Beach Playground, Splashpad &  
Stormwater Improvements**

**Oakland Beach Avenue  
Warwick, Rhode Island 02889**

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**FRANCIS M. GOMEZ**  
PURCHASING AGENT

**FRANK J. PICOZZI**  
MAYOR

**CITY OF WARWICK**  
PURCHASING DIVISION  
3275 POST ROAD  
WARWICK, RHODE ISLAND 02886  
TEL (401)738-2013  
FAX (401) 737-2364

The following notice is to appear on the City of Warwick's website Wednesday, June 28, 2023. The website address is <http://www.warwickri.gov/bids>.

**CITY OF WARWICK**  
**BIDS REQUESTED FOR**

**BID# 2024-091**  
**OAKLAND BEACH PLAYGROUND, SPLASHPAD &**  
**STORMWATER IMPROVEMENTS**

Specifications are available in the Purchasing Division, Warwick City Hall, Monday through Friday, 8:30 AM until 4:30 PM on or after Wednesday, June 28, 2023.

Sealed bids will be received by the Purchasing Division, Warwick City Hall Annex, 65 Centerville Road, 1<sup>st</sup> Floor Suite D, Warwick, Rhode Island 02886 up until 11:00 AM, Monday, August 7, 2023. The bids will be opened publicly commencing at 11:00 AM on the same day in the Lower Level Conference Room at Warwick City Hall.

A *mandatory* on-site pre-bid meeting will be held on **Tuesday, July 11, at 10:00 AM** at the end of Oakland Beach Avenue in the vicinity of the existing playground.

Awards will be made on the basis of the lowest evaluated or responsive bid price. Please note that no bids can be accepted via email or fax.

The City of Warwick, in addition to soliciting bids in response to this bid, may consult, consider, and make an award for any and all open bid offers for a comparable unit as sought herein at the following websites:

RI State MPA: <https://www.ridop.ri.gov/contract-portal/>

NASPO: <https://www.naspo.org/>

NJPA (National Joint Powers Alliance): <https://www.njpacoop.org/cooperative-purchasing>

MHEC (Massachusetts Higher Education Consortium): <https://www.mhec.net/>

Individuals requesting interpreter services for the hearing impaired must notify the Purchasing Division at 401-738-2013 at least 48 hours in advance of the bid opening date.

***Original Signature on File***

Francis M. Gomez  
Purchasing Agent



**PLEASE COMPLETE THIS PAGE & SUBMIT WITH YOUR BID**

**Acknowledgement of Addendum (if applicable)**

<b>Addendum Number</b>	<b>Signature of Bidder</b>
_____	_____
_____	_____
_____	_____
_____	_____

COMPANY NAME: \_\_\_\_\_

COMPANY ADDRESS: \_\_\_\_\_

COMPANY ADDRESS: \_\_\_\_\_

BIDDER'S SIGNATURE: \_\_\_\_\_

BIDDER'S NAME (PRINT): \_\_\_\_\_

TITLE: \_\_\_\_\_ TEL. NO.: \_\_\_\_\_

EMAIL ADDRESS: \_\_\_\_\_\*

\*Please include your email address. Future bids will be emailed, unless otherwise noted.



**II. AWARD AND CONTRACT:**

The CITY OF WARWICK, acting as duly authorized through its Purchasing Agent/Finance Director/Mayor, accepts the above bid and hereby enters into a contract with the above party to pay the bid price upon completion of the project or receipt of the goods unless another payment schedule is contained in the specifications. All terms of the specifications, both substantive and procedural, are made terms of this contract.

DATE: \_\_\_\_\_  
Bid# 2024-091
Purchasing Agent

**PLEASE COMPLETE THIS PAGE & SUBMIT WITH YOUR BID**

**CERTIFICATION & WARRANT FORM\***

**This form must be completed and submitted with sealed bid.  
Failure to do so will result in automatic rejection.**

Any and all bids shall contain a certification and warrant that they comply with all relevant and pertinent statutes, laws, ordinances and regulations, in particular, but not limited to Chapter 16- Conflicts of Interest, of the Code of Ordinances of the City of Warwick. Any proven violation of this warranty and representation by a bidder at the time of the bid or during the course of the contract, included, but not limited to negligent acts, either directly or indirectly through agents and/or sub-contractors, shall render the bidder's contract terminated and the bidder shall be required to reimburse the City for any and all costs incurred by the City, including reasonable attorney fees, to prosecute and/or enforce this provision.

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Address

\_\_\_\_\_  
Address

**\*This form cannot be altered**

**CITY OF WARWICK  
NOTICE TO BIDDERS**

**Bid# 2024-091  
OAKLAND BEACH PLAYGROUND, SPLASHPAD  
& STORMWATER IMPROVEMENTS**

If you received this document from our homepage or from a source other than the City of Warwick Purchasing Division, please check with our office prior to submitting your bid to ensure that you have a complete package. The Purchasing Division cannot be responsible to provide addenda if we do not have you on record as a plan holder.

The opening of bids will be in the order established by the posted agenda and the agenda will continue uninterrupted until completion.

Once an item has been reached and any bids on that item has been opened, no other bids on that item will be accepted and any such bid will be deemed late.

The contractor will not discriminate against any employee or applicant for employment because of physical or mental handicap for any position for which the employee or applicant is qualified and that in the event of non-compliance the City may declare the contractor in breach and take any necessary legal recourse including termination or cancellation of the contract.

A bidder filing a bid thereby certifies that no officer, agent, or employee of the City has a pecuniary interest in the bid or has participated in contract negotiations on the part of the City, that the bid is made in good faith without fraud, collusion, or connection of any kind with any other bidder for the same call for bids, and that the bidder is competing solely in his own behalf without connection with, or obligation to, any undisclosed person or firm.

All bids should be submitted with one (1) original and one (1) copy in a sealed envelope, which should read: *YOUR COMPANY NAME* plainly marked on the exterior of the envelope as well as “**Bid# 2024-091 OAKLAND BEACH PLAYGROUND, SPLASHPAD & STORMWATER IMPROVEMENTS.**”

Bids received prior to the time of the opening will be securely kept, unopened. No responsibility will be attached to an officer or person for the premature opening of a bid not properly addressed and identified. No bids will be accepted via facsimile or email.

All proposals submitted become the property of the City and will not be returned. If the company intends to submit **confidential or proprietary information** as part of the proposal, **any limits on the use or distribution of that material should be clearly delineated in writing. This information should be submitted in a sealed envelope, clearly labeled confidential** and where it should be submitted in the response. Please be advised of the Freedom of Information Act as it may pertain to your submittal.

Should you have any questions, please contact William R. Facente, Office of Housing & Community Development, 401-921-9688.

All bids should be written in ink or typed. If there is a correction with whiteout, the bidder should initial the change.

Negligence on the part of the bidder in preparing the proposal confers no rights for the withdrawal of the proposal after it is open.

Any deviation from the specifications must be noted in writing and attached as part of the bid proposal. The bidder should indicate the item or part with the deviation and indicate how the bid will deviate from specifications.

The IRS Form W-9 is available on [www.warwickri.gov](http://www.warwickri.gov) should be completed and submitted with the bid if the bidder falls under IRS requirements to file this form.

Prevailing Wages will apply to this bid. Current rates may be viewed at <http://www.dlt.state.ri.us/pw>.

The successful bidder must comply with all Rhode Island Laws, applicable to public works projects, including, but not limited to provisions of Chapter 13 of Title 37 of the Rhode Island General Laws, pertaining to prevailing wage rates, and all other applicable local, state and federal laws.

The contractor must carry sufficient liability insurance and agree to indemnify the city against all claims of any nature, which might arise as a result of his operations or conduct of work.

The contractor must keep himself informed of and comply with all laws, ordinances and regulations of the federal, state and municipal governments which may apply and be in force during the life of the contract, in any manner which may affect himself/employees or the conduct of the work or the materials used or employed in the work. Before submitting bids, prospective bidders should examine the terms, covenants and conditions of all codes, permits and laws which may apply. By submitting a bid, the bidder agrees to comply with all pertinent laws/regulations if awarded a contract.

Every contractor and subcontractor awarded a contract for public works, construction, alteration and/or repair, including painting and decorating, or public buildings or public works must submit completed RI Certified Weekly Payroll forms listing employees employed on the project to the awarding authority on a monthly basis for all work completed in the preceding month. These forms may be found at: [www.dlt.ri.gov/pw/pwFormsPubs.htm](http://www.dlt.ri.gov/pw/pwFormsPubs.htm). Certified Payroll forms concerning RI Department of Transportation projects may be submitted on federal forms. However, when a complaint is being investigated by the RI Department of Labor & Training (DLT), the contractor must resubmit the payroll information on the RI Certified Weekly Payroll forms for the entire project.

Awarding authorities, contractors and subcontractors must provide any and all payroll records to the DLT within ten (10) days of any request that is made by the department.

The awarding authority of any public works project will withhold the next scheduled payment to any contractor or subcontractor who fails to comply with the above provisions, as

well as any further payments until they comply. The DLT may also impose a penalty of up to \$500 for each calendar day of noncompliance.

Please refer to Rhode Island state laws Section 37-13 for more information.

The successful bidder must provide the City of Warwick with an original **Certificate of Insurance** for General Liability and Automobile Liability in a minimum amount of \$1 million, naming the **City of Warwick as the additional insured** and so stated on the certificate with the bid name and bid number. It is the vendor's responsibility to provide the City of Warwick with an updated Certificate of Insurance upon expiration of the original certificate.

Failure to provide adequate insurance coverage within the specified duration of time as set forth is a material breach of contract and grounds for termination of the contract.

The successful bidder must furnish a performance and payment bond in the amount of 100 percent of the total bid price.

**SERVICE:** For a bid to be awarded to a corporation, limited liability company or other legal entity, prior to commencing work under the awarded bid, that corporation, company or legal entity may be required to provide to the Purchasing Agent a **Certificate of Good Standing** from **The Rhode Island Secretary of State** dated no more than thirty (30) days prior to the date upon which the bid approval was made. **Please note that no other State's Certificate of Good Standing will be accepted.**

If required, the successful bidder will provide said **Certificate of Insurance, bonds and State of Rhode Island's Certificate of Good Standing** within ten (10) calendar days after notification or the City reserves the right to rescind said award.

Prices to be held firm for **one-year from award**. Term contracts may be extended for one (1) additional term upon mutual agreement unless otherwise stated.

The City is exempt from the payment of the Rhode Island Sales Tax under the 1956 General Laws of the State of Rhode Island, 44-18-30, Paragraph I, as amended.

The contractor must carry sufficient liability insurance and agree to indemnify the City against all claims of any nature, which might arise as a result of his operations or conduct of work.

The Purchasing Agent reserves the right to reject any and all bids, to waive any minor deviations or informalities in the bids received, and to accept the bid deemed most favorable to the interest of the City.

The City reserves the right to terminate the contract or any part of the contract in the best interests of the City, upon 30-day notice to the contractor. The City will incur no

liability for materials or services not yet ordered if it terminates in the best interests of the City. If the City terminates in the interests of the City after an order for materials or services has been placed, the contractor will be entitled to compensation upon submission of invoices and proper proof of claim, in that proportion which its services and products were satisfactorily rendered or provided, as well as expenses necessarily incurred in the performance of work up to time of termination.

No extra charges for delivery, handling or other services will be honored. All claims for damage in transit will be the responsibility of the successful bidder. Deliveries must be made during normal working hours unless otherwise agreed upon.

All costs directly or indirectly related to the preparation of a response to this solicitation, or any presentation or communication to supplement and/or clarify any response to this solicitation which may be required or requested by the City of Warwick will be the sole responsibility of and will be borne by the respondent.

If the respondent is awarded a contract in accordance with this solicitation and fails or refuses to satisfy fully all of the respondents obligations thereunder, the City of Warwick will be entitled to recover from the respondent any losses, damages or costs incurred by the City as a result of such failure or refusal.

The City reserves the right to award in part or full and to increase or decrease quantities in the best interest of the City.

Any quantity reference in the bid specifications are estimates only, and do not represent a commitment on the part of the City of Warwick to any level of billing activity. It is understood and agreed that the agreement will cover the actual quantities ordered during the contract period.

The City reserves the right to rescind award for non-compliance to bid specifications.

The successful bidder must adhere to all City, State and Federal Laws, where applicable.

**CITY OF WARWICK**

**BID AND CONTRACT FORM**

**Bid# 2024-091**

**OAKLAND BEACH PLAYGROUND, SPLASHPAD &  
STORMWATER IMPROVEMENTS**

**I. BID:**

WHEREAS, the CITY OF WARWICK has duly asked for bids for performance of services and/or supply of goods in accordance with the above-indicated specifications.

The person or entity does irrevocably offer to perform the services and/or furnish the goods in accordance with the specifications, which are hereby incorporated by reference in exchange for the bid price.

This offer will remain open and irrevocable until the CITY OF WARWICK has accepted this bid or another bid on the specifications or abandoned the project.

The bidder agrees that acceptance by the CITY OF WARWICK will transform the bid into a contract. This bid and contract will be secured by Bonds, if required by the specifications.

**Pricing as Submitted**

**BID FORM -004113**

1.1 BID INFORMATION

- A. Bidder: \_\_\_\_\_.
- B. Project Name: Oakland Beach Playground and Splash Pad
- C. Project Location: Oakland Beach Avenue. Warwick, RI
- D. Owner: City of Warwick, Rhode Island
- E. Owner Project Number: 2023-435
- F. Architect/Engineer: BL Companies
- G. Architect Project Number: 2100515

1.2 CERTIFICATIONS AND BASE BID

- A. Base Bid, Single-Prime (All Trades) Contract: The undersigned Bidder, having carefully examined the Procurement and Contracting Requirements, Conditions of the Contract, Drawings, Specifications, and all subsequent Addenda, as prepared by BL Companies and Architect/Engineers consultants, having visited the site, and being familiar with all conditions and requirements of the Work, hereby agrees to furnish all material, labor, equipment and services, including all scheduled allowances, necessary to complete the construction of the above-named project, according to the requirements of the Procurement and Contracting Documents, for the stipulated sum of:
  - 1. \_\_\_\_\_ Dollars (\$\_\_\_\_\_).
  - 2. The above amount may be modified by amounts indicated by the Bidder on the attached Document 004322 "Unit Prices Form" and Document 004323 "Alternates Form."

1.3 SUBCONTRACTORS AND SUPPLIERS

- A. A full list of subcontractors and their qualifications will be required subsequent to award of contract.

1.4 TIME OF COMPLETION

- A. The undersigned Bidder proposes and agrees hereby to commence the Work of the Contract Documents on a date specified in a written Notice to Proceed to be issued by Engineer/Landscape Architect, and shall fully complete the Work within 250 calendar days.



1.5 ACKNOWLEDGEMENT OF ADDENDA

- A. The undersigned Bidder acknowledges receipt of and use of the following Addenda in the preparation of this Bid:
1. Addendum No. 1, dated \_\_\_\_\_.
  2. Addendum No. 2, dated \_\_\_\_\_.
  3. Addendum No. 3, dated \_\_\_\_\_.
  4. Addendum No. 4, dated \_\_\_\_\_.

1.6 BID SUPPLEMENTS

- A. The following supplements are a part of this Bid Form and are attached hereto.
1. Bid Form Supplement - Alternates.
  2. Bid Form Supplement - Allowances.
  3. Bid Form Supplement - Unit Prices.
  4. Bid Form Supplement - Bid Bond Form (AIA Document A310-2010).

1.7 CONTRACTOR'S LICENSE

- A. The undersigned further states that it is a duly licensed contractor, for the type of work proposed, in Rhode Island, and that all fees, permits, etc., pursuant to submitting this proposal have been paid in full.

1.8 SUBMISSION OF BID

- A. Respectfully submitted this \_\_\_\_ day of \_\_\_\_\_, 2023.
- B. Submitted By: \_\_\_\_\_ (Name of bidding firm or corporation).
- C. Authorized Signature: \_\_\_\_\_ (Handwritten signature).
- D. Signed By: \_\_\_\_\_ (Type or print name).
- E. Title: \_\_\_\_\_ (Owner/Partner/President/Vice President).
- F. Attest: \_\_\_\_\_ (Handwritten signature).
- G. By: \_\_\_\_\_ (Type or print name).
- H. Title: \_\_\_\_\_ (Corporate Secretary or Assistant Secretary).
- I. Street Address: \_\_\_\_\_.
- J. City, State, Zip: \_\_\_\_\_.

**City of Warwick**  
**Oakland Beach Playground, Splashpad &**  
**Stormwater Improvements**  
**Construction Documents**  
**June 2023**  
**RFP/BID #: 2024-091**

K. Phone: \_\_\_\_\_.

L. License No.: \_\_\_\_\_.

M. Federal ID No.: \_\_\_\_\_ (Affix Corporate Seal Here).

END OF DOCUMENT 004113

**ALLOWANCE FORM - 004321**

1.1 BID INFORMATION

- A. Bidder: \_\_\_\_\_.
- B. Project Name: Oakland Beach Playground and Splash Pad
- C. Project Location: Oakland Beach Avenue, Warwick, Rhode Island
- D. Owner: City of Warwick, Rhode Island
- E. Owner Project Number: 2023-435
- F. Landscape Architect/Engineer: BL Companies
- G. Landscape Architect/Engineer Project Number: 2100515

1.2 BID FORM SUPPLEMENT

- A. This form is required to be attached to the Bid Form.
- B. The undersigned Bidder certifies that Base Bid submission to which this Bid Supplement is attached includes those allowances described in the Contract Documents and scheduled in Section 012100 "Allowances."

1.3 SUBMISSION OF BID SUPPLEMENT

- A. Respectfully submitted this \_\_\_\_ day of \_\_\_\_\_, 2023
- B. Submitted By: \_\_\_\_\_ (Insert name of bidding firm or corporation).
- C. Authorized Signature: \_\_\_\_\_ (Handwritten signature).
- D. Signed By: \_\_\_\_\_ (Type or print name).
- E. Title: \_\_\_\_\_ (Owner/Partner/President/Vice President).

END OF DOCUMENT 004321

**UNIT PRICES FORM - 004322**

1.1 BID INFORMATION

- A. Bidder: \_\_\_\_\_.
- B. Project Name: Oakland Beach Playground and Splash Pad
- C. Project Location: Oakland Beach Avenue, Warwick, Rhode Island
- D. Owner: City of Warwick, Rhode Island
- E. Owner Project Number: 2023-435
- F. Landscape Architect/Engineer: BL Companies
- G. Landscape Architect/Engineer Project Number: 2100515

1.2 BID FORM SUPPLEMENT

- A. This form is required to be attached to the Bid Form.

1.3 UNIT PRICES

- A. Unit-Price No. 1: Removal of unsatisfactory soil and replacement with satisfactory soil material.
  - 1. \_\_\_\_\_ dollars (\$ \_\_\_\_\_) per cubic yard.
- B. Unit-Price No. 2: Rock excavation and replacement with satisfactory soil material.
  - 1. \_\_\_\_\_ dollars (\$ \_\_\_\_\_) per cubic yard.
- C. Unit-Price No. 3: Installation of Sand Dune Protection Snow Fencing.
  - 1. \_\_\_\_\_ dollars (\$ \_\_\_\_\_) per linear foot.
- D. Unit-Price No. 4: Supply and Install Bench without Back.
  - 1. \_\_\_\_\_ dollars (\$ \_\_\_\_\_) per each.
- E. Unit-Price No. 5: Supply and Install Bench with Back.
  - 1. \_\_\_\_\_ dollars (\$ \_\_\_\_\_) per each.

**City of Warwick**  
**Oakland Beach Playground, Splashpad &**  
**Stormwater Improvements**  
**Construction Documents**  
**June 2023**  
**RFP/BID #: 2024-091**

- F. Unit-Price No. 6: Supply and Install Trash Receptacle with Cover.
  - 1. \_\_\_\_\_ dollars (\$ \_\_\_\_\_) per each.
- G. Unit-Price No. 7: Supply and Install ADA Accessible Picnic Table.
  - 1. \_\_\_\_\_ dollars (\$ \_\_\_\_\_) per each.

1.4 SUBMISSION OF BID SUPPLEMENT

- A. Respectfully submitted this \_\_\_\_ day of \_\_\_\_\_, 2023.
- B. Submitted By: \_\_\_\_\_ (Insert name of bidding firm or corporation).
- C. Authorized Signature: \_\_\_\_\_ (Handwritten signature).
- D. Signed By: \_\_\_\_\_ (Type or print name).
- E. Title: \_\_\_\_\_ (Owner/Partner/President/Vice President).

END OF DOCUMENT 004322

ALTERNATES FORM - 004323

1.1 BID INFORMATION

- A. Bidder: \_\_\_\_\_.
- B. Project Name: Oakland Beach Playground and Splash Pad
- C. Project Location: Oakland Beach Avenue, Warwick, Rhode Island
- D. Owner: City of Warwick, Rhode Island
- E. Owner Project Number: 2024-091
- F. Architect/Engineer: BL Companies
- G. Architect Project Number: 2100515

1.2 BID FORM SUPPLEMENT

- A. This form is required to be attached to the Bid Form.

1.3 DESCRIPTION

- A. The undersigned Bidder proposes the amount below be added to or deducted from the Base Bid if particular alternates are accepted by Owner. Amounts listed for each alternate include costs of related coordination, modification, or adjustment.
- B. If the alternate does not affect the Contract Sum, the Bidder shall indicate "NO CHANGE."
- C. If the alternate does not affect the Work of this Contract, the Bidder shall indicate "NOT APPLICABLE."
- D. The Bidder shall be responsible for determining from the Contract Documents the affects of each alternate on the Contract Time and the Contract Sum.
- E. Owner reserves the right to accept or reject any alternate, in any order, and to award or amend the Contract accordingly within 60 days of the Notice of Award unless otherwise indicated in the Contract Documents.
- F. Acceptance or non-acceptance of any alternates by the Owner shall have no affect on the Contract Time unless the "Schedule of Alternates" Article below provides a formatted space for the adjustment of the Contract Time.

1.4 SCHEDULE OF ALTERNATES

A. Alternate No. 1: Dune Plantings Installation

Installation of all Dune Plantings. Construction of dunes to be included in the base bid.

1. ADD  X  DEDUCT  NO CHANGE  NOT APPLICABLE .
2. \_\_\_\_\_ Dollars (\$ \_\_\_\_\_).
3. ADD  DEDUCT  calendar days to adjust the Contract Time for this alternate.

B. Alternate No. 2: Construction of metal overhead structure.

Fabrication and installation of metal overhead structure as well as any electrical or plumbing components within structure itself. Footings for structure will remain in base contract for potential future installation as well as any necessary electrical or plumbing sleeves needed if structure is installed in the future.

1. ADD  X  DEDUCT  NO CHANGE  NOT APPLICABLE .
2. \_\_\_\_\_ Dollars (\$ \_\_\_\_\_).
3. ADD  DEDUCT  calendar days to adjust the Contract Time for this alternate.

C. Alternate No. 3: Deduct Playground Equipment 'A'

Credit to be issued for fabrication and installation of Playground Equipment 'A' as highlighted on Sheet MAT-1.

1. ADD  DEDUCT  X  NO CHANGE  NOT APPLICABLE .
2. \_\_\_\_\_ Dollars (\$ \_\_\_\_\_).
3. ADD  DEDUCT  calendar days to adjust the Contract Time for this alternate.

D. Alternate No. 4: Deduct Playground Equipment 'B'

Credit to be issued for fabrication and installation of Playground Equipment 'B' as highlighted on Sheet MAT-1.

1. ADD  DEDUCT  X  NO CHANGE  NOT APPLICABLE .
2. \_\_\_\_\_ Dollars (\$ \_\_\_\_\_).
3. ADD  DEDUCT  calendar days to adjust the Contract Time for this alternate.

E. Alternate No. 5: Deduct Playground Equipment 'C'

Credit to be issued for fabrication and installation of Playground Equipment 'C' as highlighted on Sheet MAT-1.

1. ADD \_\_\_ DEDUCT x NO CHANGE \_\_\_ NOT APPLICABLE \_\_\_.
2. \_\_\_\_\_ Dollars (\$\_\_\_\_\_).
3. ADD \_\_\_ DEDUCT \_\_\_ calendar days to adjust the Contract Time for this alternate.

F. Alternate No. 6: Deduct Supplying and Installing all Site Furnishings

Credit to be issued for supplying and installing all Benches with Backs, Benches without Backs, Trash Receptacles, and ADA Picnic Tables.

1. ADD \_\_\_ DEDUCT x NO CHANGE \_\_\_ NOT APPLICABLE \_\_\_.
2. \_\_\_\_\_ Dollars (\$\_\_\_\_\_).
3. ADD \_\_\_ DEDUCT \_\_\_ calendar days to adjust the Contract Time for this alternate.

G.

1.5 SUBMISSION OF BID SUPPLEMENT

- A. Respectfully submitted this \_\_\_ day of \_\_\_\_\_, 2023.
- B. Submitted By: \_\_\_\_\_ (Insert name of bidding firm or corporation).
- C. Authorized Signature: \_\_\_\_\_ (Handwritten signature).
- D. Signed By: \_\_\_\_\_ (Type or print name).
- E. Title: \_\_\_\_\_ (Owner/Partner/President/Vice President).

END OF DOCUMENT 004323



**City of Warwick  
Office of Housing & Community Development**

**FEDERAL BID SUBMISSION**

**CERTIFICATIONS for Contracts of**

**\$200,000 & Over**

The following documents need to be completed and submitted with original bid:

- Certification Regarding Debarment and Suspension (3 pages)
- Equal Opportunity Certification (4 pages)
- Anti-Lobbying Certification (1 page)
- Minority Contractor Participation (2 pages)
- Segregated Facilities Certification (1 page)
- Davis Bacon, Section 3, Minority & Woman Owned Business Certification (1 page)
- City of Warwick Community Development Program Affirmative action Plan for Utilizing Local Businesses (3 pages)
- Civil Rights, Employment and Contracting Opportunities and Other Federal Requirements (3 pages)
- Certification of Bidder - Federal Labor Standards Provisions - Davis Bacon Act and "Related Acts" (1 page)
- Section 3 Forms

**As part of the final award of the contract, the contractor will be required to provide a Unique Entity Identifier # (UEI#) and Registration from Sam.gov, completed W-9 form, and certificate of insurance. In addition, for bids that exceed \$100,000, the following bonds will be required: material and labor & performance for 100% of the contract amount.**

**CERTIFICATION REGARDING DEBARMENT,  
SUSPENSION, AND OTHER RESPONSIBILITY  
MATTERS PRIMARY COVERED TRANSACTIONS**

- (1) The prospective primary participant certifies to the best of its knowledge and belief, that it and its principals:
- (a) Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal department or agency;
  - (b) Have not within a three-year period preceding this proposal been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction or contact under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery falsification or destruction of records, making false statements, or receiving stolen property;
  - (c) Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State or local) with commission of any of the offenses enumerated in paragraph (1) (b) of this certification; and
  - (d) Within a three-year period preceding this application/proposal, has not had one or more public transactions (Federal, State or local) terminated for cause or default.
- (2) Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

\_\_\_\_\_  
Contractor's Name (printed)

\_\_\_\_\_  
Contractor Name (signature)

\_\_\_\_\_  
Title

\_\_\_\_\_  
License # / Registration #

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Mailing Address (if different)

\_\_\_\_\_  
City, State, Zip Code

\_\_\_\_\_  
City, State, Zip Code

# Certification Regarding Debarment and Suspension

## Certification A: Certification Regarding Debarment, Suspension, and Other Responsibility Matters - Primary Covered Transactions

I. The prospective primary participant certifies to the best of its knowledge and belief that its principals;

a. Are not presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from covered transactions by any Federal debarment or agency;

b. Have not within a three-year period preceding this proposal, been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State, or local) transaction or contract under a public transaction; violation of Federal or State antitrust statutes or commission of embezzlement, theft, forgery, bribery, falsification, or destruction of records, making false statements, or receiving stolen property;

c. Are not presently indicted for or otherwise criminally or civilly charged by a governmental entity (Federal, State, or local) with commission of any of the offenses enumerated in paragraph (I)(b) of this certification; and

d. Have not within a three-year period preceding this application/proposal had one or more public transactions (Federal, State, or local) terminated for cause or default.

2. Where the prospective primary participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

### Instructions for Certification (A)

I. By signing and submitting this proposal, the prospective primary participant is providing the certification set out below.

2. The inability of a person to provide the certification required below will not necessarily result in denial of participation in this covered transaction. The prospective participant shall submit an explanation of why it cannot provide the certification set out below. The certification or explanation will be considered in connection with the department or agency's determination whether to enter into this transaction. However, failure of the prospective primary participant to furnish a certification or an explanation shall disqualify such person from participation in this transaction.

3. The certification in this clause is a material representation of fact upon which reliance was placed when the department or agency determined to enter into this transaction. If it is later determined that the prospective primary participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

4. The prospective primary participant shall provide immediate written notice to the department or agency to whom this proposal is submitted if at any time the prospective primary participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.

5. The terms **covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded**, as used in this clause, have the meanings set out in the Definitions and Coverage sections of the rules implementing Executive Order 12549. You may contact the department or agency to which this proposal is being submitted for assistance in obtaining a copy of these regulations.

6. The prospective primary participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency entering into this transaction.

7. The prospective primary participant further agrees by submitting this proposal that it will include the clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction," provided by the department or agency entering into this covered transaction, without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.

8. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines this eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.

9. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

10. Except for transactions authorized under paragraph (6) of these instructions, if a participant in a covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency may terminate this transaction for cause of default.

**Certification B: Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transactions**

1. The prospective lower tier participant certifies, by submission of this proposal, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency.
2. Where the prospective lower tier participant is unable to certify to any of the statements in this certification, such prospective participant shall attach an explanation to this proposal.

**Instructions for Certification (B)**

- I. By signing and submitting this proposal, the prospective lower tier participant is providing the certification set out below.
2. The certification in this clause is a material representation of fact upon which reliance was placed when this transaction was entered into. If it is later determined that the prospective lower tier participant knowingly rendered an erroneous certification, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies, including suspension and/or debarment.
3. The prospective lower tier participant shall provide immediate written notice to the person to which this proposal is submitted if at any time the prospective lower tier participant learns that its certification was erroneous when submitted or has become erroneous by reason of changed circumstances.
4. The terms **covered transaction, debarred, suspended, ineligible, lower tier covered transaction, participant, person, primary covered transaction, principal, proposal, and voluntarily excluded**, as used in this clause, have the meanings set out in the Definitions and Coverage sections of rules implementing Executive Order 12549. You may contact the person to which this proposal is submitted for assistance in obtaining a copy of these regulations.

5. The prospective lower tier participant agrees by submitting this proposal that, should the proposed covered transaction be entered into, it shall not knowingly enter into any lower tier covered transaction with a person who is debarred, suspended, declared ineligible, or voluntarily excluded from participation in this covered transaction, unless authorized by the department or agency with which this transaction originated.
6. The prospective lower tier participant further agrees by submitting this proposal that it will include this clause titled "Certification Regarding Debarment, Suspension, Ineligibility and Voluntary Exclusion - Lower Tier Covered Transaction," without modification, in all lower tier covered transactions and in all solicitations for lower tier covered transactions.
7. A participant in a covered transaction may rely upon a certification of a prospective participant in a lower tier covered transaction that it is not debarred, suspended, ineligible, or voluntarily excluded from the covered transaction, unless it knows that the certification is erroneous. A participant may decide the method and frequency by which it determines the eligibility of its principals. Each participant may, but is not required to, check the Nonprocurement List.
8. Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render in good faith the certification required by this clause. The knowledge and information of a participant is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.
9. Except for transactions authorized under paragraph (5) of these instructions, if a participant in a lower covered transaction knowingly enters into a lower tier covered transaction with a person who is suspended, debarred, ineligible, or voluntarily excluded from participation in this transaction, in addition to other remedies available to the Federal Government, the department or agency with which this transaction originated may pursue available remedies including suspension and/or debarment.

Applicant	Date
Signature of Authorized Certifying Official	Title

## EQUAL EMPLOYMENT OPPORTUNITY PROVISIONS

I, the undersigned, understand that the following is applicable for contracts and sub-contracts that are funded in whole or in part with federal HUD funding:

### I. Executive Order 11246:

#### Equal Employment Opportunity

Executive Order 11246, as amended by Executive Order 12066 (41 CFR Chapter 60), and the regulations at 24 CFR Part 130, which provide that no person shall be discriminated against on the basis of race, color, religion, sex or national origin in all phases of employment during the performance of HUD assisted **construction contracts**. Participating contractors and subcontractors must take affirmative action to ensure fair treatment in employment, upgrading, demotion, transfer, recruitment and recruitment advertising; layoff and termination; rates of pay and compensation; and selection for training and apprenticeship. This provision shall apply to all construction contracts of \$10,000.00 or more entered into by the Office of Housing and Community Development or Sub Recipient and specific affirmative actions including:

- A. Posting in a conspicuous place the “Equal Employment Opportunity (EEO) Poster;
- B. stating in all solicitations or advertisements for employees that all qualified applicants will receive consideration for employment without regard to race, creed, color, sex, or national origin;
- C. sending to each labor union or representative of workers with which there is a collective bargaining agreement a copy of the EEO poster for posting;
- D) and placing the “Equal Opportunity Clause” in all subcontracts for any project **which exceeds \$10,000.**

### II. Minority Business Enterprises (MBEs) and Women Business Enterprises (WBEs)

The City of Warwick follows General Law 37-14.1 with regards to goals for MBE and WBE contracts:

- A. Minority Business Enterprises are encouraged to be awarded at least 10% of the total contract amount for construction/public works projects.

The City of Warwick through the Office of Housing and Community Development encourages contractors to work with the Rhode Island Office of Diversity, Equity & Opportunity to provide opportunities for participation by minority and women owned businesses in federal HUD funded projects.

The address and telephone number of the Rhode Island Office of Diversity, Equity & Opportunity:  
RI Department of Administration, ODEO/Minority Business Enterprise Compliance Office, One Capitol Hill,  
Providence, RI 02908, Phone (401) 574-8670, email - [Jean.M.Heiss@doa.ri.gov](mailto:Jean.M.Heiss@doa.ri.gov)

The following are some suggested actions contractors or subcontractors may be able to increase the participation of MBEs and WBEs:

- a) contact the Rhode Island Office of Diversity, Equity & Opportunity:  
ODEO/Minority Business Enterprise Compliance Office, One Capitol Hill, Providence, RI 02908,  
Phone (401) 574-8670, email - [Jean.M.Heiss@doa.ri.gov](mailto:Jean.M.Heiss@doa.ri.gov) , and request a listing of all area MBE/WBE firms.
- b) disseminate information on business opportunities for MBEs and WBEs through announcements in the local media and through local minority, women, business, professional trade groups;

The bidder hereby certifies that he/she shall comply with the Section 3 requirements and MBE/WBE affirmative action steps contained in the above, including submission of required reports with each payment request.

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Authorized Signature

---

Date

---

Name (Please Print or Type)

---

Title

Opportunity Certification Excerpt From 41 CFR §60-1.4(b)

Office of Housing Federal Housing Commissioner

OMB Control No. 2502-0029 (exp. 9/30/2016)

The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:

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

- (1) The contractor will not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, color, religion, sex, or national origin, such action shall include, but not be limited to the following: Employment, upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
(2) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive considerations for employment without regard to race, color, religion, sex, or national origin.
(3) The contractor will send to each labor union or representative of workers with which it has a collective bargaining agreement or other contract or understanding, a notice to be provided advising the said labor union or workers' representatives of the contractor's commitments under this section, and shall post copies of the notice in conspicuous places available to employees and applicants for employment.
(4) The contractor will comply with all provisions of Executive Order 11246 of September 24, 1965, and of the rules, regulations and relevant orders of the Secretary of Labor.
(5) The contractor will furnish all information and reports required by Executive Order 11246 of September 24, 1965, and by rules, regulations, and orders of the Secretary of Labor, or pursuant thereto, and will permit access to its books, records, and accounts by the administering agency and the Secretary of Labor for purposes of investigation to ascertain compliance with such rules, regulations, and orders.

- (6) In the event of the contractor's noncompliance with the nondiscrimination clauses of this contract or with any of the said rules, regulations, or orders, this contract may be canceled, terminated, or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or federally assisted construction contracts in accordance with procedures authorized in Executive Order 11246 of September 24, 1965, and such other sanctions may be imposed and remedies invoked as provided in Executive Order 11246 of September 24, 1965, or by rule, regulation, or order of the Secretary of Labor, or as otherwise provided by law.
(7) The contractor will include the portion of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the administering agency may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, That in the event a contractor becomes involved in, or is threatened with, litigation with a subcontractor or vendor as a result of such direction by the administering agency the contractor may request the United States to enter into such litigation to protect the interests of the United States.

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work:

Provided, That if the applicant so participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and Federally-assisted construction contracts pursuant to the Executive order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed

Firm Name and Address

By

Title





upon contractors and subcontractors by the administering agency or the Secretary of Labor pursuant to Part II, Subpart D of the Executive order. In addition, the applicant agrees that if it fails or refuses to comply with these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

#### Excerpt from HUD Regulations

200.410 Definition of term "applicant".

- (a) In multifamily housing transactions where controls over the mortgagor are exercised by the Commissioner either through the ownership of corporate stock or under the provisions of a regulatory agreement, the term "applicant" as used in this subpart shall mean the mortgagor.
- (b) In transactions other than those specified in paragraph(a) of this section, the term "applicant" as used in this subpart shall mean the builder, dealer or contractor performing the construction, repair or rehabilitation work for the mortgagor or other borrower.

200.420 Equal Opportunity Clause to be included in contracts and subcontracts.

- (a) The following equal opportunity clause shall be included in each contract and subcontract which is not exempt:  
During the performance of this contract, the contractor agrees as follows:
  - (1) The contractor will not discriminate against any employee or applicant for employment because of race, creed, color, or national origin. The contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment without regard to their race, creed, color, or national origin. Such action shall include, but not be limited to the following: employment, upgrading, demotion or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of compensation; and selection for training, including apprenticeship. The contractor agrees to post in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of the nondiscrimination clause.
  - (2) The contractor will in all solicitations or advertisements for employees placed by or on behalf of the contractor, state that all qualified applicants will receive consideration for employment without regard race, creed, color, or national origin.
  - (3) The contractor will send to each labor union or representative of workers with which he has a collective bargaining agreement or other contract or understanding, a notice, to be provided, advising the said labor union or workers' representative of the contractor's commitments under this section, and shall post copies of the notices in conspicuous places available to employees and applicants for employment.
  - (4) The contractor will comply with all provisions of Executive Order 10925 of March 6 1961, as amended, and of the regulations, and relevant orders of the President's Committee on Equal Employment Opportunity created thereby.

(5) The contractor will furnish all information and reports required by Executive Order 10925 of March 6, 1961, as amended, and by the regulations, and orders of the said Committee, or pursuant thereto, and will permit access to his books, records, and accounts by HUD and the Committee for purposes of investigation to ascertain compliance with such regulations, and orders.

(6) In the event of the contractor's non-compliance with the nondiscrimination clause of this contract or with any of the said regulations, or orders, this contract may be cancelled, terminated or suspended in whole or in part and the contractor may be declared ineligible for further Government contracts or Federally-assisted construction contracts in accordance with procedures authorized in Executive Order 10925 of March 6, 1961, as amended, and such other sanctions may be imposed and remedies invoked provided in the said Executive Order or by regulations, or order of the President's Committee on Equal Employment Opportunity, or as otherwise provided by law.

(7) The contractor will include the provisions of Paragraphs(1) through (7) in every subcontract or purchase order unless exempted by regulations, or orders of the President's Committee on Equal Employment Opportunity issued pursuant to Section 303 of Executive Order 10925 of March 6, 1961, as amended, so that such provisions will be binding upon each subcontractor or venter. The contractor will take such action with respect to any subcontract or purchase orders as HUD may direct as a means of enforcing such provisions, including sanctions for noncompliance: Provided, however, that in the event the contractor becomes involved in, or is threatened with, litigation with a subcontractor or venter as a result of such direction by HUD, the contractor may request the United States to enter into such litigation to protect the interests of the United States.

- (b) Except in subcontracts for the performance of construction work at the site of construction, the clause is not required to be inserted in subcontracts below the second tier. Subcontracts may incorporate by referenced to the equal opportunity clause.

200.425 Modification in and exemptions from the regulations in this subpart.

- (a) The following transactions and contracts are exempt from the regulations in this subpart:
  - (1) Loans, mortgages, contracts and subcontracts not exceeding \$10,000.
  - (2) Contract and subcontracts not exceeding \$100,000 for standard commercial supplies or raw material;
  - (3) Contracts and subcontracts under which work is to be or has been performed outside the United States and where no recruitment of workers within the United States is involved. To the extent that work pursuant to such contracts is done within the United States, the equal opportunity clause shall be applicable;
  - (4) Contracts for the sale of Government property where no appreciable amount of work is involved; and
  - (5) Contracts and subcontracts for an indefinite quantity which are not to extend for more than one year if the purchaser determines that the amounts to be ordered under any such contract or subcontract are not reasonably expected to exceed \$100,000 in the case of contracts or subcontracts for standard commercial supplies and raw materials, or \$10,000 in the case of all other contracts and subcontracts.

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## CERTIFICATION REGARDING LOBBYING

### Certification for Contracts, Grants, Loans, and Cooperative Agreements

The undersigned certifies, to the best of his or her knowledge and belief, that:

(1) No Federal appropriated funds have been paid or will be paid, by or on behalf of the undersigned, to any person for influencing or attempting to influence an officer or employee of an agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with the awarding of any Federal contract, the making of any Federal grant, the making of any Federal loan, the entering into of any cooperative agreement, and the extension, continuation, renewal, amendment, or modification of any Federal contract, grant, loan, or cooperative agreement.

(2) If any funds other than Federal appropriated funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this Federal contract, grant, loan, or cooperative agreement, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions.

(3) The undersigned shall require that the language of this certification be included in the award documents for all subawards at all tiers (including subcontracts, subgrants, and contracts under grants, loans, and cooperative agreements) and that all subrecipients shall certify and disclose accordingly. This certification is a material representation of fact upon which reliance was placed when this transaction was made or entered into. Submission of this certification is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required certification shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

### Statement for Loan Guarantees and Loan Insurance

The undersigned states, to the best of his or her knowledge and belief, that:

If any funds have been paid or will be paid to any person for influencing or attempting to influence an officer or employee of any agency, a Member of Congress, an officer or employee of Congress, or an employee of a Member of Congress in connection with this commitment providing for the United States to insure or guarantee a loan, the undersigned shall complete and submit Standard Form-LLL, "Disclosure of Lobbying Activities," in accordance with its instructions. Submission of this statement is a prerequisite for making or entering into this transaction imposed by section 1352, title 31, U.S. Code. Any person who fails to file the required statement shall be subject to a civil penalty of not less than \$10,000 and not more than \$100,000 for each such failure.

<b>* APPLICANT'S ORGANIZATION</b> <div style="border: 1px solid red; background-color: yellow; height: 15px; width: 100%; margin-top: 5px;"></div>	
<b>* PRINTED NAME AND TITLE OF AUTHORIZED REPRESENTATIVE</b>	
Prefix: <input style="width: 80px;" type="text"/>	* First Name: <div style="border: 1px solid red; background-color: yellow; width: 250px; height: 15px; display: inline-block;"></div> Middle Name: <input style="width: 180px;" type="text"/>
* Last Name: <div style="border: 1px solid red; background-color: yellow; width: 420px; height: 15px; display: inline-block;"></div>	Suffix: <input style="width: 100px;" type="text"/>
* Title: <div style="border: 1px solid red; background-color: yellow; width: 320px; height: 15px; display: inline-block;"></div>	
* SIGNATURE: <input style="width: 350px;" type="text"/>	* DATE: <input style="width: 180px;" type="text"/>

**CITY OF WARWICK**  
**SCHEDULE OF PARTICIPATION**  
**MINORITY BUSINESS ENTERPRISES/WOMEN BUSINESS ENTERPRISES**

*TO BE COMPLETED AND SUBMITTED WITH BID*

	<b>MBE or WBE</b>	<b>Race/ Ethnicity</b>	<b>Name of Firm</b>	<b>Trade</b>	<b>Total Contract Award</b>
1					
2					
3					
4					
5					

**MBE/WBE CERTIFICATION:** The bidder hereby certifies that the above-named Minority Business Enterprise and/or Women’s Business Enterprise is currently certified by the Rhode Island Office of Diversity, Equity & Opportunity (ODEO/Minority Business Enterprise Compliance Office)/ and such SOMWBA certification has not changed; and in the event of said status changing, it will immediately forward written notification to the City of Warwick.

The bidder further agrees to furnish implementation reports, as required by the awarding authority, to indicate the MBE/WBE, which it has used or intends to use. Breach of this commitment constitutes a breach of the contract.

General Bidder Name:

\_\_\_\_\_

Authorized Signature: \_\_\_\_\_

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

**MINORITY/WOMAN BUSINESS ENTERPRISES  
UNAVAILABILITY FORM**

*To be completed by General Contractor*

The undersigned contractor describes below all due diligence requirements known and making every possible effort to meet the minimum requirements for Minority/Women Business Enterprises (MBE/WBE/DBE) participation and said Contractor is seeking relief from these requirements by filing this form. A minimum of 10% of the total construction contract must be awarded to MBE/WBEs.

The General Contractor shall prepare additional copies of this information form in the quantity necessary to comply with the bidding requirements.

I, \_\_\_\_\_, \_\_\_\_\_  
Name Title

Of \_\_\_\_\_, \_\_\_\_\_, I contacted the below listed  
General Contractor Name Date

MBE/WBE(s) requesting a bid for Project \_\_\_\_\_ as an  
Project Name

\_\_\_ MBE or \_\_\_ WBE for the provision of \_\_\_ Goods & Services or \_\_\_ Labor to accomplish:

\_\_\_\_\_ Sub work offered to this MBE/WBE (plumbing, electrical, carpentry etc...)

\_\_\_\_\_ Name of Prospective Sub-Contractor \_\_\_\_\_ Address, City and State

Contact was made by \_\_\_ Telephone \_\_\_ In Person

Said sub-contractor was unavailable for work on this project or unable to prepare a bid for the following reason(s): (check appropriate answer):

- MBW/WBE/DBE Firm Declined Job
- MBE/WBE/DBE Firm offered to do a job at the price of \$\_\_\_\_\_, which was not acceptable because: \_\_\_\_\_.
- Other \_\_\_\_\_

The above information is accurate and complete, to the best of my knowledge and belief. Signed under the pains and penalties of perjury.

\_\_\_\_\_ Signature of Authorized Representative, General Contractor \_\_\_\_\_ Date

**CERTIFICATION OF CONTRACTOR REGARDING**  
**SEGREGATED FACILITIES**  
**(For Prime Contracts Exceeding \$100,000)**

\_\_\_\_\_  
Name of Prime Contractor:

\_\_\_\_\_  
Project Name and Number:

The undersigned hereby certifies that:

- (a) No segregated facilities will be maintained as required by Title VI of the Civil Rights Act of 1964.

\_\_\_\_\_  
Contractor's Name (printed)

\_\_\_\_\_  
Contractor Name (signature)

\_\_\_\_\_  
Title

\_\_\_\_\_  
License # / Registration #

\_\_\_\_\_  
Company Name

\_\_\_\_\_  
Street Address

\_\_\_\_\_  
Mailing Address (if different)

\_\_\_\_\_  
City, State, Zip Code

\_\_\_\_\_  
City, State, Zip Code



**CITY OF WARWICK**

**FRANK J. PICOZZI, MAYOR**

**Davis-Bacon Labor Relations  
Section 3, Minority and Woman-Owned Business Certification**

The undersigned bidder/contractor certifies as part of its bid or contract that it is a Section 3 Business Concern as indicated below (check applicable box):

Family Size	Max Annual Income	Family Size	Max Annual Income
1	\$57,350	5	\$88,500
2	\$65,550	6	\$95,050
3	\$73,750	7	\$101,600
4	\$81,900	8	\$108,150

*A Section 3 Resident is defined as any low or very low-income person residing within the City of Warwick. Low income is defined at 80% of the area median income based on family size.*

Category 1 Business Concern: A business that is owned by 51% or more Section 3 Residents; OR

Category 2 Business Concern: Over 75% of the labor hours performed for the business over the prior three-month period was performed by Section 3 Workers; OR

Category 3 Business Concern: A business is 51% or more owned AND controlled by current public housing residents or residents who currently live in Section 8-assisted housing

Is not a Section 3 Business Concern

The undersigned bidder/contractor certifies as part of its bid or contract that it is a minority-owned business as indicated below (check applicable box):

Minority-Owned Business: A business that is owned by 51% or more by a minority resident.  
Race: \_\_\_\_\_ AND Hispanic: Y / N

Is not a Minority-Owned Business

The undersigned bidder/contractor certifies as part of its bid or contract that it is a woman-owned business as indicated below (check applicable box):

Woman-Owned Business: A business that is owned 51% or more by a woman resident.

Is not a Woman-Owned Business

**CERTIFICATION**

\_\_\_\_\_  
Business Name

\_\_\_\_\_  
Project Name

\_\_\_\_\_  
Business Address

\_\_\_\_\_  
UEI #

\_\_\_\_\_  
Tax ID #(EIN)

\_\_\_\_\_  
Signatory Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

**OFFICE OF HOUSING & COMMUNITY DEVELOPMENT  
3275 POST ROAD • WARWICK, RI 02886 • 401-738-2009**

City of Warwick  
Community Development Program

Affirmative Action Plan  
for  
Utilizing Local Businesses

This plan sets forth the procedures by which the City of Warwick will assure that to the greatest extent feasible contracts for work in connection with the City's Community Development Program will be awarded to business concerns which are located in or owned in substantial part by persons residing in the City of Warwick. These procedures are set forth in compliance with the rules and regulations in Part 135 of Title 24 of the Code of Federal Regulations entitled "Employment Opportunities for Businesses and Lower Income Persons in Connection with Assisted Projects" published on August 3, 1973. It is the intent of this plan that the City and its contractors follow these procedures in awarding any work financed under the City's Community Development Program.

1. At the beginning of each Community Development Program Year the City will prepare and make available to the public a list of contracts expected to be awarded and a description of the professional category or classification of each type of service or supplied to be provided in order to carry out the Community Development Program.
2. The City will prepare a list of businesses known to be located within the City which appear to be eligible to provide the services, supplies or construction work in order to determine the availability of local businesses for each contract listed in compliance with No. 1 above.
3. The City and its contractors shall, where feasible, award all contracts to local businesses. Reasons for awarding contracts to other firms shall be documented. Sufficient reason for awarding contracts to firms outside the City shall include non-competitive bids or the unavailability of local firms or individuals who can provide the services or supplies required.
4. The City and its contractors shall comply with the following procedures in order to assure that local businesses are afforded the opportunity to contract with the City or other contractors under the Community Development Program:
  - (a) The Community Development Program's Affirmative Action Plan for Utilizing Local Businesses shall be inserted into all bid documents for work funded under the Community Development Program.
  - b) Local businesses for the purpose of complying with these procedures shall be those located within the entire City of Warwick or owned in substantial part by residents of Warwick.
  - (c) All contractors and subcontractors shall certify their intent to comply with the objectives and procedures of this plan prior to signing a contract with the City. All contracts and subcontracts will be awarded in compliance with this plan and must be approved by the City of Warwick in writing.

(d) Opportunities or contracts under the Community Development Program shall be advertised in the metropolitan and local newspapers. A notice of the pending contract shall be posted on the site, where applicable, or in the City Hall. Notification of pending contractual opportunities shall be sent to the City's Purchasing Agent.

(e) All contracts for more than \$1,000 shall be awarded on the basis of competitive bids in conformance with City and Federal procedures.

(f) All bids or proposals must be accompanied by a list of all positions for employment or training by occupational category and a list of all subcontracts necessary to fulfill the contract. In addition, each bidder shall submit with the bid, a certification adopting this plan for utilizing local businesses.



City of Warwick  
Community Development Program

Affirmative Action Plan  
for  
Utilizing Local Businesses

I, \_\_\_\_\_, certify that I have read and understand the Community Development  
(Contractor)

Program's Affirmative Action Plan for Utilizing Local Businesses and further certify that all work let out under this contract shall be in conformance with its objectives and procedures. I understand that I am certifying that to the greatest extent feasible all sub-contracts or other work let out under this contract will be awarded to businesses located in Warwick or businesses which are owned in substantial part by residents of Warwick.

Witness: \_\_\_\_\_

By: \_\_\_\_\_  
(Contractor)

Title: \_\_\_\_\_

Business Address: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

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

## **Civil Rights, Employment and Contracting Opportunities, and Other Federal Requirements**

**Americans with Disabilities Act or 1990 (ADA):** This Act modifies and expands the Rehabilitation Act of 1973 to prohibit discrimination against a qualified individual with a disability" in employment and public accommodations. The ADA requires that an individual with a physical or mental impairment who is otherwise qualified to perform the essential functions of a job, with or without reasonable accommodation, be afforded equal employment opportunity in all phases of employment.

**Architectural Barriers Act of 1968 (ABA)- (42 U.S.C. 4151-4157):** This Act requires that certain buildings financed with Federal funds must be designed, constructed, or altered in accordance with standards that ensure accessibility for persons with physical disabilities. The ABA covers any building or facility financed in whole or in part with Federal funds, except privately owned residential structures. Covered buildings and facilities designed, constructed, or altered with COBO funds are subject to the ABA and must comply with the Uniform Federal Accessibility Standards.

**Disadvantaged Business Enterprises (DBE):** It is the policy of HUD to encourage the award of prime contracts valued at \$100,000 or more to small disadvantaged business (SOB) concerns (other than certified 8(a) firms) that are at least 51 percent owned and controlled by socially and economically disadvantaged individuals.

**Fair Labor Standards Act (FLSA) as amended - 29 U.S.C. 201 et seq.:** The U.S. Department of Labor (DOL) administers and enforces the minimum wage, overtime pay, recordkeeping, and youth employment standards affecting employees in the private sector and in Federal, State, and local governments.

**Immigration Reform and Control Act (IRCA) of 1986:** Employers may hire only persons who may legally work in the U.S. i.e., citizens and nationals of the U.S. and aliens authorized to work in the U.S. The employer must verify the identity and employment eligibility of anyone to be hired, which includes completing the Employment Eligibility Verification Form (I-9).

### **Minority and Women-Owned Business Enterprises (MBE/WBE) - 24CFR Part**

**85.36 (e) (1):** It is the policy of HUD to actively encourage contractors to take all necessary affirmative steps to assure that small and minority firms, Women's business enterprise and labor surplus area firms as used as subcontractors when possible. A minority or women-owned small business concern is defined as owned by at least 51 percent minority group members or women.

**Section 109 of Title I of the Housing and Community Development Act of 1974, as amended (42 U.S.C. S301 et. seq., particularly 42 U.S.C. 6101 et. seq., and 29 U.S.C. 794):** This section provides that no person shall be excluded from participation (including employment), denied program benefits, or subject to discrimination on the basis of race, color, national origin, or sex under any program or activity funded in whole or in part under Title I of the Act.

**Section 504 of the Rehabilitation Act of 1973, as amended (implemented at 24 CFR Part 135):** It is unlawful to discriminate based on disability in federally assisted programs. This section provides that no otherwise qualified individual shall, solely by reason of his or her disability, be excluded from participation (including employment), denied program benefits, or subjected to discrimination under any program or activity receiving Federal funding assistance. Section 504 also contains design and construction accessibility provisions for multi-family dwellings developed or substantially rehabilitated for first occupancy on or after March 13, 1991.

**Uniform Guidelines on Employee Selection Procedures adopted by the Equal Employment Opportunity Commission in 1978:** This manual applies to employee selection procedures in the areas of hiring, retention, promotions, transfer, demotions, dismissal, and referral. It is designed to assist employers, labor organizations, employment agencies, licensing and certification boards in complying with the requirements of Federal laws prohibiting discriminatory employment.

**Vietnam Era Veterans' Readjustment Act of 1974 (revised Jobs for Veterans Act of 2002):** This Act was passed to ensure equal employment opportunity for qualified disabled veterans and veterans of the Vietnam War. Affirmative action is required in the hiring and promotion of veterans.

**Violation or Breach of Contract:** Contracts for more than the simplified acquisition threshold currently set at \$150,000, which is the inflation adjusted amount determined by the Civilian Agency Acquisition Council and the Defense Acquisition Regulations Council (Councils) as authorized by 41 U.S.C. 1908, must address administrative, contractual, or legal remedies in instances where contractors violate or breach contract terms, and provide for such sanctions and penalties as appropriate.

**Termination for Cause and for Convenience:** AH contracts in excess of \$10,000 must address termination for cause and for convenience by the non-Federal entity including the manner by which it will be effected and the basis for settlement.

**Rights to Inventions Made Under a Contract or Agreement:** If the agreement with the contractor is for the performance of experimental, developmental, or research work, including any assignment, substitution of parties, or subcontract of any type entered into for such purpose, the recipient or subrecipient must comply with the requirements of 37 CFR Part 401, "Rights to Inventions Made by Nonprofit Organizations and Small Business Firms Under Government Grants, Contracts and Cooperative Agreements," and any implementing regulations issued by the awarding agency.

**Clean Air Act (42 U.S.C. 7401-7671q.) and the Federal Water Pollution Control Act(33 U.S.C. 1251-1387), as amended:** Contracts and subgrants of amounts in excess of \$150,000 must contain a provision that requires the non-Federal award to **agree** to comply with all applicable standards, orders or regulations issued pursuant to the Clean Air Act (42 U.S.C. 7401-7671q) and the Federal Water Pollution Control Act as amended(33 U.S.C. 1251-1387). Violations must be reported to the Federal awarding agency and the Regional Office of the Environmental Protection Agency (EPA).

**Procurement of Recovered Materials:** A nonfederal entity that is a state agency or agency of a political subdivision of a state and its contractors must comply with section 6002 of the Solid Waste Disposal Act, as amended by the Resource Conservation and Recovery Act. The requirements of Section 6002 include procuring only items designated in guidelines of the Environmental Protection Agency (EPA) at 40 CFR part 247 that contain the highest percentage of recovered materials practicable, consistent with maintaining a satisfactory **level** of competition, where the purchase price of the item exceeds \$10,000 or the value of the quantity acquired during the preceding fiscal year exceeded \$10,000; procuring solid waste management services in a manner that maximizes **energy** and resource recovery; and establishing an affirmative procurement program for procurement of recovered materials identified in the EPA guidelines.

**Build America, Buy America Act (the Act),** enacted as part of the Infrastructure Investment and Jobs Act on November 15, 2021, established a domestic content procurement preference for all Federal financial assistance obligated for infrastructure projects after May 14, 2022. The domestic content procurement preference requires that all iron, steel, manufactured products, and construction materials used in covered infrastructure projects are produced in the United States.

**HUD Lead-Based Paint Regulations, 24 CFR Part 35 Flood Disaster Protection Act of 1973 (P.L. 93-243)**

**Nondiscrimination under Title VI of the Civil Rights Act of 1964 (as Amended)**

Acknowledgment of Bidding Firm to comply with the above referenced Federal Regulations where applicable:

\_\_\_\_\_  
Contractor/Bidder Signature

\_\_\_\_\_  
Print Name

\_\_\_\_\_  
Date

**CERTIFICATION OF BIDDER**

**FEDERAL LABOR STANDARDS PROVISIONS- DAVIS BACON ACT AND “RELATED ACTS”**

This certification is required to insure that the Bidder understands that the Project or Program to which the construction work covered by any construction greater than \$2,000, is being assigned by the United States of America and that the various Federal Labor Standards Provisions, summarized in the form HUD-4010, “Federal Labor Standards Provisions” are included in any such contract, pursuant to the provisions applicable to such Federal assistance.

The Bidder certifies receipt of form HUD-4010, “Federal Labor Standards Provisions”, must be included and attached to each and every construction bid document and/or construction contract greater than \$2,000, that is subject to the Davis-Bacon Act and “Related Acts.”

**Wage Determination – The Wage Determination applicable to this project is:**

Determination Number:

Modification Number:

Date:

**A hard copy of this Determination must be included within these bid specifications.**

**Wage Determination Posting** – Contractors and sub-contractors shall post the prevailing wage rates for each craft and classification in a prominent and easily accessible place at the site of the work, or at such places as are used by them to pay workers.

The undersigned is required to ensure that all specifications and/or contracts include all applicable Federal wage rate determinations and the required labor standards provisions summarized by form **HUD-4010, “Federal Labor Standards Provisions.”**

**Weekly Certified Payrolls** – It is the responsibility of each contractor and sub-contractor to submit weekly certified payrolls for project work (<http://www.dol.gov/whd/forms/wh347.pdf>). **It is the responsibility of the undersigned (prime contractor) to review payrolls submitted by subcontractors to ensure that there are no discrepancies or underpayments.**

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**CERTIFICATION BY BIDDER**

Name and Address of Bidder (Include ZIP Code):

Name and Title of Signer (Please print or type below:)

---

Signature

---

Date

## **SECTION 3 AFFIRMATIVE REQUIREMENT**

### **[For Prime and Subcontracts that exceed \$200,000]**

Section 3 of the Housing and Urban Development Act of 1968 [12 U.S.C. 1701u and 24 CFR Part 75] is HUD's legislative directive for providing preference to low- and very low-income residents of the local community (regardless of race or gender), and the businesses that substantially employ these persons, for new employment, training, and contracting opportunities resulting from HUD-funded projects. As a condition of receiving HUD assistance recipients certify that they will comply with the requirements of Section 3 annually pursuant to 24 CFR 570.607(b).

**Section 3 projects are those where HUD program assistance is used for housing rehabilitation, housing construction and other public construction projects that generally exceed a \$200,000 project threshold or any Section 3 project funding from HUD's Lead Hazard Control and Healthy Homes programs.**

#### **Applicability of Section 3 to Community Planning & Development Assistance:**

**Contractors** or subcontractors on a project in excess of **\$200,000** for Section 3 covered projects are **required to comply** with Section 3. Accordingly, the recipient must attempt to reach the **Section 3 minimum numerical goals** found at 24 CFR Part 75, Subpart C:

- (1) Twenty-five (25) percent or more of the total number of labor hours worked by all workers on a Section 3 project are Section 3 workers;

$$\frac{\text{Section 3 Worker Labor Hours}}{\text{Total Labor Hours}} = 25\%$$

**And**

- (2) Five (5) percent or more of the total number of labor hours worked by all workers on a Section 3 project are Targeted Section 3 workers, as defined at § 75.21.

$$\frac{\text{Targeted Section 3 Labor Hours}}{\text{Total Labor Hours}} = 5\%$$

**Recipients that fail to meet the minimum numerical goals above bear the burden of demonstrating why it was not possible to do so.** Such justifications should describe the efforts that were taken, barriers encountered, and other relevant information that will enable the Department to make a compliance determination.

### **Contractor Responsibilities Pursuant to Section 3**

- The Prime Contractor (Over \$200,000) must submit a Section 3 plan (attached) to the Sub-Recipient outlining Section 3 hiring and employment opportunities.
- The Prime Contractor must notify all sub-contractors (Over \$200,000) of their responsibilities under Section 3
- The Prime Contractor must provide a permanent workforce breakdown of all current employees and identify those Section 3 workers that were hired within the last five years.

- The Prime Contractor must provide an estimated breakdown of potential hires for the awarded project and timeline of anticipated hiring
- Maintain records that document a **good faith effort** to utilize Section 3 workers and Target Section 3 workers as trainees and employees. (Required of both contractor and sub-contractor.) and any other qualitative efforts to comply with Section 3.

### **Section 3 Workers are:**

HUD defines a Section 3 worker for both public housing financial assistance and Section 3 projects as a worker that meets one of the following requirements:

- The worker's income is below the income limit established by HUD for the project area.
- The worker is employed by a Section 3 business concern.
- The worker is a YouthBuild participant.

For § 75.21, Section 3 projects, a Targeted Section 3 worker includes any worker who is employed by a Section 3 business concern or is a Section 3 worker who is:

- Living within the service area or neighborhood of the project; or
- A YouthBuild participant.

### **Section 3 Businesses are:**

HUD defines a Section 3 business concern as a business concern that meets one of the following requirements:

- It is at least 51 percent owned by low- or very low-income persons;
- Over 75 percent of the labor hours performed for the business are performed by low- or very low-income persons; or
- It is a business at least 51 percent owned by current public housing residents or residents who currently live in Section 8-assisted housing.

Some examples include: proof of residency in a public housing authority; proof of federal subsidies for housing, food stamps, or unemployment benefits; and payroll data or other relevant business information.

For additional information, please visit the Section 3 website at: [www.hud.gov/section3](http://www.hud.gov/section3).

## SECTION 3 CLAUSE

**All Section 3 covered contracts shall include the following clause (referred to as the “Section 3 Clause”):**

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 75, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 75 regulations.

C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 75. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 75.

E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected by before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 75 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 75.

F. Noncompliance with HUD's regulations in 24 CFR Part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.



**SECTION 3 AFFIRMATIVE ACTION PLAN**  
**(Prime Contractor)**  
**[For Projects that exceed \$200,000]**

\_\_\_\_\_, Contractor, agrees to implement the following specific affirmative action steps directed at increasing the utilization of Section 3 Residents' and Section 3 Business Concerns within the City of Warwick.

- A.** To ascertain from the City the exact boundaries of the Section 3 Covered Project Area and where advantageous, seek the assistance of City of Warwick in preparing and implementing the affirmative action plan.
- B.** To attempt to recruit from within the City of Warwick the necessary individuals to fill employment opportunities generated by Section 3 covered assistance through: local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within or serving the project area and providing preference for these opportunities in the following order:
  - (i) Section 3 Residents residing in the service area or neighborhood in which the Section 3 covered project is located;
  - (ii) Participants in HLJD Youthbuild Programs, and
  - (iii) Other Section 3 Residents.
- C.** To maintain a list of all lower income area residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and a vacancy exists.
- D.** To insert this Section 3 Affirmative Action Plan in all bid documents for contracts over \$200,000, and to require all bidders on subcontracts over \$200,000 to submit a Section 3 Affirmative Action Plan, including utilization goals and the specific steps planned to accomplish these goals.
- E.** To ensure that subcontracts over \$200,000 which are typically let on a negotiated rather than bid basis in areas other than Section 3 covered project areas, are also let on a negotiated basis, whenever feasible, when let in a Section 3 covered project area.
- F.** To formally contact unions, subcontractors and trade associations to secure their cooperation for this program.
- G.** To notify Section 3 residents and Section 3 business concerns about economic opportunities generated by Section 3 covered assistance and to award Section 3 covered contracts, to the greatest extent feasible, to Section 3 business concerns in the following order of preference:
  - (i) Section 3 business concerns that provide economic opportunities for Section 3 residents in the service area or neighborhood in which the Section 3 covered project is located;
    - (ii) Applicants selected to carry out HUD Youthbuild projects;
    - (iii) Other Section 3 business concerns.
- H.** To notify potential contractors about Section 3 requirements of this part and incorporating the Section 3 clause in all solicitations and contracts.

- I. To facilitate the training and employment of Section 3 residents and the award of contracts to Section 3 business concerns undertaking activities to reach the numerical goal established by HUD.
- J. To cooperate in obtaining the compliance of contractors and subcontractors with the requirements of Section 3.
- K. To submit reports to City and HUD on the results of actions taken to provide training, jobs and contracts to Section 3 residents and Section 3 business concerns.
- L. To appoint an executive official of the company or agency as Equal Employment Opportunity Officer to coordinate the implementation of this Section 3 Affirmative Action Plan.
- M. To document utilization of Section 3 Employees on the covered project by having existing employees, and new employees, (including those of all subcontractors) from the Section 3 Area, complete the Section 3 Income Worksheet as provided by the City.
- N. To complete a Section 3 Utilization Report and submit said report to City of Warwick, or their designee prior to final payment for the covered project; This report will list all Section 3 Employees documented on the Section 3 Income Worksheets and be in the format provided by City.
- O. To maintain records, including copies of correspondence, income verification memoranda, etc., which document that all levels of the above affirmative action steps have been taken.

CONTRACTOR CERTIFICATION:

As officers and representative of: \_\_\_\_\_  
 (Name of Contractor)

On behalf of the Company, I have read and fully agree to the Section 3 Affirmative Action Plan, and become a party to the full implementation of this program.

\_\_\_\_\_  
 Name and Title of the Authorized Representative (print or type)

\_\_\_\_\_  
 Signature of Authorized Representative Date



## CITY OF WARWICK

FRANK J. PICOZZI, MAYOR

### Section 3 Business Concern Certification

**Instructions:** Enter the following information and select the criteria that applies to certify your business' Section 3 Business Concern status.

#### Business Information

Name of Business \_\_\_\_\_

Address of Business \_\_\_\_\_

Name of Business Owner \_\_\_\_\_

Phone Number of Business Owner \_\_\_\_\_

Email Address of Business Owner \_\_\_\_\_

#### Preferred Contact Information

Same as above

Name of Preferred Contact \_\_\_\_\_

Phone Number of Preferred Contact \_\_\_\_\_

#### Type of Business (select from the following options):

Corporation       Partnership       Sole Proprietorship       Joint Venture

#### Select from *ONE* of the following three options below that applies:

At least 51 percent of the business is owned and controlled by low- or very low-income persons (Refer to income guidelines on page 4).

At least 51 percent of the business is owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 workers (Refer to definition on page 2).

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**OFFICE OF HOUSING & COMMUNITY DEVELOPMENT  
3275 POST ROAD • WARWICK, RI 02886 • 401-738-2009**

**SUMMARY OF WORK - 010100**

**PART 1 - GENERAL**

**1.1 PROJECT DESCRIPTION**

- A. Project Identification: The project consists of a new playground, splash pad, pedestrian and stormwater improvements at the Oakland Beach Playground in Warwick, RI.

Project Location:

Oakland Beach Avenue  
Warwick, RI 02889

Owner: City of Warwick ("Client")

Engineer Identification: The Contract Documents, dated June 2023, were prepared for the project by BL Companies, 2346 Post Road, Suite 100, Warwick, RI 02886.

- B. Work Included: The scope of work for this project generally includes, but is not limited to, the following major elements:
1. Selective demolition.  
Offsite disposal of all removed materials.
  2. Stripping of topsoil
  3. Coordination work for utility improvements.
  4. Asphalt, Concrete, and site amenity work described in the Construction Documents.
  5. Playground installation.
  6. Splashpad installation.
  7. Amending, screening and spreading of topsoil
  8. Turf and Landscaping establishment.
- C. Schedule: Shall be agreed upon by Client and Contractor after award. Contact duration shall not exceed 6 months.

**1.2 CONTRACTOR USE OF PREMISES**

- A. Contractor shall coordinate its' work activities with the Owner on a daily basis and advise the Owner of its scheduled activities two weeks in advance.
- B. General: Limit use of the premises to construction activities in areas indicated, provide temporary facility controls to limit public access to site during construction.
- C. Confine operations to as small work area and access ways as possible. As much as possible and without damage to the surrounding area.
- D. Keep driveways and entrances serving the premises or surrounding area clear and available to the Owner and the public. Do not use these areas for parking or storage of materials. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on site.

- E. Shall maintain existing egress patterns, exit doors and means of egress during construction, which will include the provision of temporary walkways, sideways, or other means necessary to provide adequate life safety for the building occupants, particularly at exit ways which must continue to remain open and serviceable while adjacent construction activity occurs.
- F. Contractor shall at its expense make all permanent connections and tie-ins during time that will not affect the operations of the neighboring businesses.

### 1.3 SPECIFICATION FORMATS AND CONVENTIONS

- A. Specification Format: Division 1 thru Division 34, and on the construction drawings.
- B. Section Identification: The Specifications use section numbers and titles to help cross-referencing in the Contract Documents. Sections in the Project Manual are in numeric sequence; however, the sequence is incomplete. Consult the table of contents at the beginning of the Project Manual to determine numbers and names of sections in the Contract Documents.
- C. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

Abbreviated Language: Language used in the Specifications and other Contract Documents is abbreviated. Words and meanings shall be interpreted as appropriate. Words implied, but not stated, shall be inferred as the sense requires. Singular words shall be interpreted as plural, and plural words shall be interpreted as singular where applicable as the context of the Contract Documents indicates.

Imperative mood and streamlined language are generally used in the Specifications. Requirements expressed in the imperative mood are to be performed by Contractor. Occasionally, the indicative or subjunctive mood may be used in the section text for clarity to describe responsibilities that must be fulfilled indirectly by Contractor or by others when so noted.

The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.

Drawings and General Provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to all Sections of these Specifications.

### 1.4 TYPE OF CONTRACT

- A. Project will be constructed under a single prime contract.
- B. Contractor Qualifications: An experienced contractor with a minimum of 5 years of experience with this type of construction. In addition, the contractor must prove experience in similar type and monetary value. Contractor must have sufficient resources to perform the improvements at the site while meeting the project deadlines. Contractors that cannot comply with these qualifications will not be considered for the project.

1.5 WORK SCHEDULES

- A. All work shall be completed on or before June 1, 2024. Coordinate all work and exact dates with the Client.
- B. Contractor shall coordinate its work and schedule activities with the Client calendar.
- C. If the deadlines cannot be met, then the contractor must provide temporary services to the portions of the site that is not in operation until work under this contract is complete.

PART 2 - PRODUCTS (Not Applicable)

PART 3 - EXECUTION (Not Applicable)

END OF SECTION 01 01 00

## WORK RESTRICTIONS - 011400

### PART 1 - GENERAL

#### 1.1 USE OF PREMISES

- A. Use of Site: Limit use of premises to work in areas indicated. Do not disturb portions of site beyond areas in which the work is indicated.
1. Limits: Confine constructions operations to areas so indicated on the Drawings. Coordinate use of the construction area with the Owner on a daily basis.
  2. Owner Occupancy: Allow for Owner occupancy and use by the public of the remainder of site and building.
  3. Driveways and Entrances: Keep driveways and entrances serving premises clear and available to Owner, Owner's employees, visitors, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
  4. Schedule deliveries not to conflict with Owner's use of adjacent driveways and entrances. Contractor shall give Client a minimum forty-eight (48) hour notice in writing.
  5. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.
  6. Contractor shall protect its work until accepted by the City of Warwick.
  7. Contractor shall only park in designated location as directed by the Client. Contractor shall not interfere with neighboring business parking.
  8. Normal work hours are between the hours of 7 am and 3:30 pm Monday through Friday. Off hours and weekends must be coordinated and approved by the Client.
  9. Contractor shall obey all local ordinances including but not limited to work hours and noise requirements.

#### 1.2 OCCUPANCY REQUIREMENTS

- A. Owner will occupy and have full use of areas of the site not used by the Contractor. Contractor's use of premises is limited only by Owner's right to perform work or to retain other contractors on portions of Project.
- B. Partial Owner Occupancy: Owner reserves the right to occupy and to place and install equipment in completed areas of the site before Substantial Completion, provided such occupancy does not interfere with completion of the Work. Such placement of equipment and partial occupancy shall not constitute acceptance of the total work.

**City of Warwick  
Oakland Beach Playground, Splashpad &  
Stormwater Improvements  
Construction Documents  
June 2023  
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1. Before partial Owner occupancy, sidewalk access shall be fully operational, and required tests and inspections shall be successfully completed.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 14 00



**ALLOWANCES - 012100**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. Section includes administrative and procedural requirements governing allowances.
- B. Types of allowances include the following:
  - 1. Contingency allowances.
- C. Related Requirements:
  - 1. Section 012200 "Unit Prices" for procedures for using unit prices, including adjustment of quantity allowances when applicable.
  - 2. Section 012600 "Contract Modification Procedures" for procedures for submitting and handling Change Orders.

**1.3 DEFINITIONS**

- A. Allowance: A quantity of work or dollar amount included in the Contract, established in lieu of additional requirements, used to defer selection of actual materials and equipment to a later date when direction will be provided to Contractor. If necessary, additional requirements will be issued by Change Order.

**1.4 SELECTION AND PURCHASE**

- A. At Landscape Architect/Engineer's request, obtain proposals for each allowance for use in making final selections. Include recommendations that are relevant to performing the Work.
- B. Purchase products and systems selected by Architect from the designated supplier.

**1.5 ACTION SUBMITTALS**

- A. Submit proposals for purchase of products or systems included in allowances in the form specified for Change Orders.

1.6 INFORMATIONAL SUBMITTALS

- A. Submit invoices or delivery slips to show actual quantities of materials delivered to the site for use in fulfillment of each allowance.
- B. Submit time sheets and other documentation to show labor time and cost for installation of allowance items that include installation as part of the allowance.
- C. Coordinate and process submittals for allowance items in same manner as for other portions of the Work.

1.7 CONTINGENCY ALLOWANCES

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

1.8 ADJUSTMENT OF ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, prepare a Change Order proposal based on the difference between purchase amount and the allowance, multiplied by final measurement of work-in-place where applicable. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, required maintenance materials, and similar margins.
  - 1. Include installation costs in purchase amount only where indicated as part of the allowance.
  - 2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other markups.
- B. Submit claims for increased costs due to a change in the scope or nature of the allowance described in the Contract Documents, whether for the purchase order amount or Contractor's handling, labor, installation, overhead, and profit.
  - 1. Do not include Contractor's or subcontractor's indirect expense in the Change Order cost amount unless it is clearly shown that the nature or extent of Work has changed from what could have been foreseen from information in the Contract Documents.
  - 2. No change to Contractor's indirect expense is permitted for selection of higher- or lower-priced materials or systems of the same scope and nature as originally indicated.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION

3.1 EXAMINATION

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

3.2 PREPARATION

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

3.3 SCHEDULE OF ALLOWANCES

- A. Allowance No. 1: Contingency Allowance: Include a contingency allowance of \$35,000.00 for use according to Owner's written instructions.

END OF SECTION 012100

## CONTRACT MODIFICATION PROCEDURES - 012500

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section specifies administrative and procedural requirements for handling and processing Contract modifications.

#### 1.2 MINOR CHANGES IN THE WORK

- A. Architect, Engineer, Landscape Architect will issue supplemental instructions authorizing minor changes in the work, not involving adjustment to the Contract Sum or the Contract Time.

#### 1.3 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect, Engineer, Landscape Architect will issue a detailed description of proposed changes in the work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
  - 1. Proposal Requests are for information only. Do not consider them instructions either to stop work in progress or to execute the proposed change.
  - 2. Within fifteen calendar days after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
    - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    - b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    - c. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
- B. Contractor-Initiated Proposals: If latent or unforeseen conditions require modifications to the Contract, Contractor shall immediately submit a Request for Information (RFI) to the Architect, Engineer, Landscape Architect and a copy to the Client. If the Landscape Architect/Engineer concurs in writing, the Contractor shall submit a Proposal Request to the Landscape Architect/Engineer and a copy to the Client. The Proposal Request shall include the following minimum information.
  - 1. Include a statement outlining reasons for the change and the effect of the change on the work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
3. Cost Proposals shall be in a format acceptable to the Client. Cost shall be broken out for Labor & Material. If requested by the Client, Contractors shall use the client supplied change order form.
4. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
5. Include an updated Contractor's Construction Schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

#### 1.4 ALLOWANCES

- A. Allowance Adjustment: To adjust allowance amounts, base each Change Order proposal on the difference between purchase amount and the allowance, multiplied by final measurement of work-in- place. If applicable, include reasonable allowances for cutting losses, tolerances, mixing wastes, normal product imperfections, and similar margins.
1. Include installation costs in purchase amount only where indicated as part of the allowance.
  2. If requested, prepare explanation and documentation to substantiate distribution of overhead costs and other margins claimed.
  3. Submit substantiation of a change in scope of work, if any, claimed in Change Orders related to unit-cost allowances.
  4. Owner reserves the right to establish the quantity of work-in-place by independent quantity survey, measure, or count.

#### 1.5 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Proposal Request, Architect, Engineer, Landscape Architect will issue a Change Order for signatures of Owner, Contractor and Architect.

#### 1.6 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect, Engineer, Landscape Architect may issue a Construction Change Directive. Construction Change Directive instructs Contractor to proceed with a change in the work, for subsequent inclusion in a Change Order.
1. Construction Change Directive contains a complete description of change in the work. It also designates method to be followed to determine change in the Contract Sum or the Contract Time.

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- B. Documentation: Maintain detailed records on a time and material basis of work required by the Construction Change Directive.
  - 1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 25 00

**PAYMENT PROCEDURES - 012900**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section specifies administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related sections include the following:
  - 1. Division 1 Section "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.

**1.2 DEFINITIONS**

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the work and used as the basis for reviewing Contractor's Applications for Payment.

**1.3 SCHEDULE OF VALUES**

- A. Coordination: Coordinate preparation of the Schedule of Values with the following:
  - 1. Correlate line items in the Schedule of Values with other required administrative forms and schedules, including the following:
    - a. Application for Payment forms with Continuation Sheets.
    - b. Submittals Schedule.
  - 2. Submit the Schedule of Values to Landscape Architect/Engineer for approval at earliest possible date but no later than fifteen (15) days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use the Project Manual table of contents as a guide to establish line items for the Schedule of Values. Provide at least one line-item for each Specification Section. These values are to be broken down by Material & Labor and by area and phase if applicable to project. Contractor shall also include specific line items for the following items: Bond, Insurance, Submittals, Project Schedule & Updates, and Close-out. Mobilization and de-mobilization line items are not allowable.
  - 1. Identification: Include the following Project identification on the Schedule of Values:

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- a. Project name and location.
  - b. Name of Landscape Architect/Engineer.
  - c. Landscape Architect/Engineer's project number.
  - d. Contractor's name and address.
  - e. Date of submittal.
2. Arrange the Schedule of Values in tabular form with separate columns to indicate the following for each item listed:
- a. Related Specification Section or Division.
  - b. Description of the work.
  - c. Name of subcontractor.
  - d. Name of manufacturer or fabricator.
  - e. Name of supplier.
  - f. Change Orders (numbers) that affect value.
  - g. Dollar value.
  - h. Percentage of the Contract Sum to nearest one percent, adjusted to total 100 percent.
3. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Coordinate with the Project Manual table of contents. Provide several line items for principal subcontract amounts, where appropriate.
4. Round amounts to nearest whole dollar; total shall equal the Contract Sum.
5. Provide a separate line item in the Schedule of Values for each part of the work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
- a. Differentiate between items stored on-site and items stored off-site. Include evidence of insurance or bonded warehousing if required per Client requirements.
6. Provide separate line items in the Schedule of Values for initial cost of materials, for each subsequent stage of completion, and for total installed value of that part of the work.
7. Allowances: Provide a separate line item in the Schedule of Values for each allowance. Show line-item value of unit-cost allowances, as a product of the unit cost, multiplied by measured quantity. Use information indicated in the Contract Documents to determine quantities.
8. Each item in the Schedule of Values and Applications for Payment shall be complete. Include total cost and proportionate share of general overhead and profit for each item.
- a. Per Client direction, temporary facilities and other major cost items that are not direct cost of actual work in-place may be shown either as separate line items in the Schedule of Values or distributed as general overhead expense.
9. Schedule Updating: Update and resubmit the Schedule of Values before the next Applications for Payment when Change Orders or Construction Change Directives result in a



change in the Contract Sum.

1.4 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment shall be consistent with previous applications and payments as certified by Landscape Architect/Engineer and paid for by Owner.
  - 1. Initial Application for Payment, Application for Payment at time of Substantial Completion, and final Application for Payment involve additional requirements.
- B. Payment Application Times: The date for each progress payment is indicated in the Agreement between Owner and Contractor. The period of construction work covered by each Application for Payment is the period indicated in the Agreement.
- C. Payment Application Forms: Use AIA Document G702 and AIA Document G703 Continuation Sheets as form for Applications for Payment or as directed by the Client.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Landscape Architect/Engineer will return incomplete applications without action.
  - 1. Entries shall match data on the Schedule of Values and Contractor's Construction Schedule. Use updated schedules if revisions were made.
  - 2. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
- E. Transmittal: Submit three (3) signed and notarized original copies of each Application for Payment to Landscape Architect/Engineer by a method ensuring receipt within 24 hours. One copy shall include waivers of lien, certified payroll, OSHA certification and similar attachments as required.
  - 1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- F. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's liens from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
  - 1. Submit partial waivers on each item for amount requested, before deduction for retainage, on each item.
  - 2. When an application shows completion of an item, submit final or full waivers.
    - a. Submit final Application for Payment with or preceded by final waivers from every entity involved with performance of the work covered by the application who is lawfully entitled to a lien.
  - 3. Waiver Forms: Submit waivers of lien on Client forms, executed by an officer of the company or authorized Contractor representative.

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- G. 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. Schedule of unit prices.
  6. Submittals Schedule (preliminary if not final).
  7. List of Contractor's staff assignments.
  8. List of Contractor's principal consultants.
  9. Copies of building permits.
  10. Copies of authorizations and licenses from authorities having jurisdiction for performance of the work.
  11. Initial progress report.
  12. Report of preconstruction conference.
  13. Certificates of insurance and insurance policies.
  14. Certified Payroll
  15. OSHA Certifications
- H. Application for Payment at Substantial Completion: After issuing the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the work claimed as substantially complete.
1. Include documentation supporting claim that the work is substantially complete and a statement showing an accounting of changes to the Contract Sum.
  2. This application shall reflect Certificates of Partial Substantial Completion issued previously for Owner occupancy of designated portions of the work.
- I. Final Payment Application: Submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
  2. All Warrantees and Guarantees
  3. All O & M Manuals
  4. Letter from Contractor certifying that no Hazardous material were used in the materials of construction including but not limited to Asbestos, PCB's, Lead.
  5. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
  6. Updated final statement, accounting for final changes to the Contract Sum.
  7. AIA Document G706, "Contractor's Affidavit of Payment of Debts and Claims."
  8. AIA Document G706A, "Contractor's Affidavit of Release of Liens."
  9. AIA Document G707, "Consent of Surety to Final Payment."
  10. Evidence that any and all claims have been settled.

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PART 3 - EXECUTION (Not Used)

END OF SECTION 01 29 00

## PROJECT MANAGEMENT AND COORDINATION - 013100

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This section includes administrative provisions for coordinating construction operations on project including, but not limited to, the following:
1. General project coordination procedures.
  2. Coordination Drawings.
  3. Administrative and supervisory personnel.
  4. Project meetings.
- B. Related Sections: The following Sections contain requirements that relate to this section:
1. Division 1 Section "Closeout Procedures" for coordinating Contract closeout.

#### 1.2 COORDINATION

- A. Coordination: Each contractor shall coordinate its construction operations with those of other contractors and entities to ensure efficient and orderly installation of each part of the Work. Each contractor shall coordinate its operations with operations, included in different Sections, which depend on each other for proper installation, connection, and operation.
1. Schedule construction operations in sequence required to obtain the best results where installation of one part of the Work depends on installation of other components, before or after its own installation.
  2. Coordinate installation of different components with other contractors to ensure maximum accessibility for required maintenance, service, and repair.
  3. Coordinate the installation and removal of site utilities, systems and elements to ensure uninterrupted system integrity.
  4. Make adequate provisions to accommodate items scheduled for later installation.
- B. If necessary, prepare memoranda for distribution to each party involved, outlining special procedures required for coordination. Include such items as required notices, reports, and list of attendees at meeting.
1. Prepare similar memoranda for Owner and separate contractors if coordination of their Work is required.
- C. Administrative Procedures: Coordinate scheduling and timing of required administrative procedures with other construction activities and activities of other contractors to avoid

conflicts and to ensure orderly progress of the Work. Such administrative activities include, but are not limited to, the following:

1. Preparation of Contractor's Construction Schedule.
2. Prepare weekly, a two week look-ahead schedule
3. Preparation of the Schedule of Values.
4. Installation and removal of temporary facilities and controls.
5. Delivery and processing of submittals & Request or Information.
6. Progress meetings.
7. Preinstallation conferences.
8. Project closeout activities.

### 1.3 SUBMITTALS

- A. Coordination Drawings: Prepare Coordination Drawings if limited space availability necessitates maximum utilization of space for efficient installation of different components or if coordination is required for installation of products and materials fabricated by separate entities.

1. Indicate relationship of components shown on separate Shop Drawings.
2. Indicate required installation sequences.

- B. Contact Information:

1. Within seven (7) days of starting construction operations, submit a list of principal staff assignments, including superintendent and other personnel in attendance at project site and individuals assigned as standbys in the absence of individuals assigned to Project. Identify individuals and their duties and responsibilities; list addresses and telephone numbers, including cell, office telephone numbers and email address.
2. Provide names, addresses, description/responsibilities, cell number, office telephone numbers and emails address for all Contractor's Consultants, Subcontractors and Vendors.
3. Provide The City of Warwick with Emergency Contact information to reach Contractors essential personnel 24/7 in case of an emergency.

### 1.4 ADMINISTRATIVE AND SUPERVISORY PERSONNEL

- A. General: In addition to Project superintendent, provide other administrative and supervisory personnel as required for proper performance of the work.

1. Include special personnel required for coordination of operations with other contractors.

### 1.5 PROJECT MEETINGS

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- A. General: The Contractor shall schedule and conduct meetings and conferences at the Project site, unless otherwise indicated or instructed by The City of Warwick.
1. Attendees: The Contractor shall inform participants and others involved, and individuals whose presence is required, of date and time of each meeting. The Contractor shall notify Owner, Subcontractor(s) and Landscape Architect/Engineer of scheduled meeting dates and times. Meetings shall occur weekly while the Contractor is on site.
  2. Agenda: The Contractor shall prepare the meeting agenda and distribute the agenda to all invited attendees.
  3. Minutes: The Contractor shall record significant discussions and agreements achieved, and distribute the meeting minutes to everyone concerned, including Owner and Landscape Architect/Engineer, within three (3) days of the meeting.
- B. Preconstruction Conference: The Contractor shall schedule a preconstruction conference before starting construction, at a time convenient to Owner and Landscape Architect/Engineer, but no later than ten (10) days after execution of the Agreement. The conference shall be held at the Project site or a location acceptable by the Client. Conduct the meeting to review responsibilities and personnel assignments.
1. Attendees: Authorized representatives of Owner, Landscape Architect/Engineer, and their consultants; Contractor and its superintendent; major subcontractors; manufacturers; suppliers; and other concerned parties shall attend the conference. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
  2. Agenda: Discuss items of significance that could affect progress, including the following:
    - a. Designation of responsible personnel.
    - b. Distribution of the Contract Documents.
    - c. Construction Schedule.
    - d. Two – Week Look Ahead scheduling
    - e. Phasing.
    - f. Critical work sequencing.
    - g. Submittal & RFI procedures.
    - h. Procedures for processing field decisions and Change Orders.
    - i. Procedures for processing Applications for Payment.
    - j. Responsibility for temporary facilities and controls.
    - k. Use of the premises and Working hours.
    - l. Parking availability.
    - m. Site Logistics: Field Office, Work, Traffic and Storage Areas.
    - n. Equipment deliveries and priorities.
    - o. Security.
    - p. Safety – (shall be discussed at every meeting)
    - q. Progress cleaning.
    - r. Preparation of Record Documents
- C. Progress and Coordination Meetings: The Contractor shall conduct progress and coordination meetings at weekly intervals. Coordinate dates of meetings with preparation of payment requests.

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1. Attendees: In addition to representatives of Owner and Landscape Architect/Engineer, each contractor, subcontractor, supplier, and other entity concerned with current progress or involved in planning, coordination, or performance of future activities shall be represented at these meetings. All participants at the conference shall be familiar with Project and authorized to conclude matters relating to the Work.
2. Agenda: Review and correct or approve minutes of the previous coordination meeting. Review other items of significance that could affect progress. Include topics for discussion as appropriate to status of Project.
  - a. Combined Contractor's Construction Schedule: Review progress since the last coordination meeting. Determine whether each contract is on time, ahead of schedule, or behind schedule, in relation to Combined Contractor's Construction Schedule. Determine how construction behind schedule will be expedited; secure commitments from parties involved to do so. Discuss whether schedule revisions are required to ensure that current and subsequent activities will be completed within the Contract Time.
  - b. Schedule Updating: Revise Combined Contractor's Construction Schedule after each coordination meeting where revisions to the schedule have been made or recognized. Contractor shall update its project schedule and submit it to the Landscape Architect/Engineer and The City of Warwick no later than the 10th of each month or with its monthly requisition, whichever is sooner.
  - c. Review present and future needs of each contractor present, including the following:
    - 1) Interface requirements.
    - 2) Sequence of operations.
    - 3) Status of submittals.
    - 4) Deliveries.
    - 5) Off-site fabrication.
    - 6) Access.
    - 7) Site utilization.
    - 8) Temporary facilities and controls.
    - 9) Work hours.
    - 10) Hazards and risks.
    - 11) Progress cleaning.
    - 12) Quality and work standards.
    - 13) Change Orders.
3. Reporting: The Contractor shall record and distribute minutes of the meeting to each party present and to parties who should have been present. Include a brief summary, in narrative form, of progress since the previous meeting and report.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 31 00

## SUBMITTAL PROCEDURES - 013300

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. This Section includes administrative and procedural requirements for submitting Shop Drawings, Product Data, Samples, and other miscellaneous submittals.
- B. Related Sections include the following:
  - 1. Division 1 Section "Payment Procedures" for submitting Applications for Payment.
  - 2. Division 1 Section "Quality Requirements" for submitting test and inspection reports and Delegated-Design Submittals.
  - 3. Division 1 Section "Project Closeout" for submitting warranties, Project Record Documents and operation and maintenance manuals.
- C. Contractor shall provide Designer and Client an electronic PDF copy of all its submittals on a flash drive. Contractor shall transmit partial information to Designer and Client on a monthly basis no later than the 10<sup>th</sup> of each month or as directed by the Client. If requested Contractor shall also forward at the conclusion of the project a complete electronic PDF copy of all submittals.

#### 1.2 DEFINITIONS

- A. Action Submittals: Written and graphic information that requires Landscape Architect/Engineer's responsive action.
- B. Informational Submittals: Written information that does not require Landscape Architect/Engineer's approval. Submittals may be rejected for not complying with requirements.

#### 1.3 SUBMITTAL PROCEDURES

- A. General: At Landscape Architect/Engineer's discretion, electronic copies of CAD Drawings may be provided by Landscape Architect/Engineer for Contractor's use in preparing submittals.
- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
  - 1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.



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2. Coordinate transmittal of different types of submittals for related parts of the Work so processing will not be delayed because of need to review submittals concurrently for coordination.
  - a. Landscape Architect/Engineer reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
  
- C. Processing Time: Allow enough time for submittal review, including time for re-submittals, as follows. Time for review shall commence on Landscape Architect/Engineer's receipt of submittal.
  1. Initial Review: Allow 7 days for initial review of each submittal. Allow additional time if processing must be delayed to permit coordination with subsequent submittals. Landscape Architect/Engineer will advise Contractor when a submittal being processed must be delayed for coordination.
  2. Concurrent Review: Where concurrent review of submittals by Landscape Architect/Engineer's consultants, Owner, or other parties is required, allow 14 days for initial review of each submittal.
  3. If intermediate submittal is necessary, process it in same manner as initial submittal.
  4. Allow 14 days for processing each re-submittal.
  5. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing.
  
- D. Place a permanent label or title block on each submittal for identification.
  1. Indicate name of firm or entity that prepared each submittal on label or title block.
  2. Provide a space approximately 4 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Landscape Architect/Engineer.
  3. Include the following information on label for processing and recording action taken:
    - a. Project name.
    - b. Date.
    - c. Name and address of Contractor.
    - d. Name and address of subcontractor.
    - e. Name and address of supplier.
    - f. Name of manufacturer.
    - g. Unique identifier, including revision number.
    - h. Number and title of appropriate Specification Section.
    - i. Drawing number and detail references, as appropriate.
    - j. Other necessary identification.
  
- E. Deviations: Highlight, encircle, or otherwise identify deviations from the Contract Documents on submittals.

- F. Transmittal: Package each submittal individually and appropriately for transmittal and handling. Transmit each submittal using a transmittal form. Landscape Architect/Engineer will return submittals, without review received from sources other than Contractor.
  - 1. On an attached separate sheet, prepared on Contractor's letterhead, record relevant information, requests for data, revisions other than those requested by Landscape Architect/Engineer on previous submittals, and deviations from requirements of the Contract Documents, including minor variations and limitations. Include the same label information as the related submittal.
  - 2. Include Contractor's certification stating that information submitted complies with requirements of the Contract Documents.
- G. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- H. Use for Construction: Use only final submittals with mark indicating action taken by Landscape Architect/Engineer in connection with construction.

## PART 2 - PRODUCTS

### 2.1 ACTION SUBMITTALS

- A. General: Prepare and submit Action Submittals required by individual Specification Sections.
  - 1. Number of Copies: Submit three copies of each submittal, unless otherwise indicated. Landscape Architect/Engineer may retain two copies; remainder will be returned to the Contractor. Mark up and retain one returned copy as a Project Record Document.
- B. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
  - 1. If information must be specially prepared for submittal because standard printed data are not suitable for use, submit as Shop Drawings, not as Product Data.
  - 2. Mark each copy of each submittal to show which products and options are applicable.
  - 3. Include the following information, as applicable:
    - a. Manufacturer's written recommendations.
    - b. Manufacturer's product specifications.
    - c. Manufacturer's installation instructions.
    - d. Color charts.
    - e. Manufacturer's catalog cuts.
    - f. Wiring diagrams showing factory-installed wiring.
    - g. Printed performance curves.
    - h. Operational range diagrams.
    - i. Mill reports.

- j. Standard product operating and maintenance manuals.
  - k. Compliance with recognized trade association standards.
  - l. Compliance with recognized testing agency standards.
  - m. Application of testing agency labels and seals.
  - n. Notation of coordination requirements.
- C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data.
- 1. Preparation: Include the following information, as applicable:
    - a. Dimensions.
    - b. Identification of products.
    - c. Fabrication and installation drawings.
    - d. Roughing-in and setting diagrams.
    - e. Wiring diagrams showing field-installed wiring, including power, signal, and control wiring.
    - f. Shopwork manufacturing instructions.
    - g. Templates and patterns.
    - h. Schedules.
    - i. Design calculations.
    - j. Compliance with specified standards.
    - k. Notation of coordination requirements.
    - l. Notation of dimensions established by field measurement.
  - 2. Wiring Diagrams: Differentiate between manufacturer-installed and field-installed wiring.
  - 3. Sheet Size: Except for templates, patterns, and similar full-size drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches but no larger than 30 by 42 inches.
- D. Coordination Drawings: Comply with requirements in Division 1 Section "Project Management and Coordination."
- E. Samples: Prepare physical units of materials or products, including the following:
- 1. Comply with requirements in Division 1 Section "Quality Requirements" for mockups.
  - 2. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units showing the full range of colors, textures, and patterns available.
  - 3. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from the same material to be used for the Work, cured and finished in manner specified, and physically identical with the product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

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4. Preparation: Mount, display, or package Samples in manner specified to facilitate review of qualities indicated. Prepare Samples to match Landscape Architect/Engineer's sample where so indicated. Attach label on unexposed side that includes the following:
    - a. Generic description of Sample.
    - b. Product name or name of manufacturer.
    - c. Sample source.
  
  5. Submit Samples for review of kind, color, pattern, and texture for a final check of these characteristics with other elements and for a comparison of these characteristics between final submittal and actual component as delivered and installed.
    - a. If variation in color, pattern, texture, or other characteristic is inherent in the product represented by a Sample, submit at least three sets of paired units that show approximate limits of the variations.
    - b. Refer to individual Specification Sections for requirements for Samples that illustrate workmanship, fabrication techniques, details of assembly, connections, operation, and similar construction characteristics.
  
  6. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
- F. Product Schedule or List: Prepare a written summary indicating types of products required for the work and their intended location. Include the following information in tabular form:
1. Type of product. Include unique identifier for each product.
  2. Number and name of room or space.
  3. Location within room or space.
- G. Delegated-Design Submittal: Comply with requirements in Division 1 Section "Quality Requirements."
- H. Application for Payment: Comply with requirements in Division 1 Section "Payment Procedures."
- I. Schedule of Values: Comply with requirements in Division 1 Section "Payment Procedures."
- J. Subcontract List: Prepare a written summary identifying individuals or firms proposed for each portion of the Work, including those who are to furnish products or equipment fabricated to a special design. Include the following information in tabular form:
1. Name, address, and telephone number of entity performing subcontract or supplying products.
  2. Number and title of related Specification Section(s) covered by subcontract.
  3. Drawing number and detail references, as appropriate, covered by subcontract.

**2.2**     **INFORMATIONAL SUBMITTALS**

- A.    General: Prepare and submit Informational Submittals required by other Specification Sections.
  - 1.    Number of Copies: Submit four copies of each submittal, unless otherwise indicated. Landscape Architect/Engineer will not return copies.
  - 2.    Certificates and Certifications: Provide a notarized statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity.
  - 3.    Test and Inspection Reports: Comply with requirements in Division 1 Section "Quality Requirements."
- B.    Contractor's Construction Schedule: Comply with requirements in Division 1 Section "Construction Progress Documentation."
- C.    Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.
- D.    Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements.
- E.    Installer Certificates: Prepare written statements on manufacturer's letterhead certifying that Installer complies with requirements and, where required, is authorized for this specific project.
- F.    Manufacturer Certificates: Prepare written statements on manufacturer's letterhead certifying that manufacturer complies with requirements. Include evidence of manufacturing experience where required.
- G.    Material Certificates: Prepare written statements on manufacturer's letterhead certifying that material complies with requirements.
- H.    Material Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements.
- I.    Compatibility Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for primers and substrate preparation needed for adhesion.
- J.    Field Test Reports: Prepare reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements.
- K.    Manufacturer's Instructions: Prepare written or published information that documents manufacturer's recommendations, guidelines, and procedures for installing or operating a

product or equipment. Include name of product and name, address, and telephone number of manufacturer. Include the following, as applicable:

1. Preparation of substrates.
  2. Required substrate tolerances.
  3. Sequence of installation or erection.
  4. Required installation tolerances.
  5. Required adjustments.
  6. Recommendations for cleaning and protection.
  7. Other required items indicated in individual Specification Sections.
- L. Provide MSDS and SDS on all material being installed. The Contractor shall verify and certify in writing to the Client that no hazardous material has been utilized in the construction of this facility.

### **PART 3 - EXECUTION**

#### **3.1 CONTRACTOR'S REVIEW**

- A. Review each submittal and check for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Landscape Architect/Engineer.
- B. Contractor's Approval Stamp: Contractor shall stamp each submittal with a uniform, approval stamp. Include Project name and location, submittal number, Specification Section title and number, name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

#### **3.2 LANDSCAPE ARCHITECT/ENGINEER'S ACTION**

- A. General: Landscape Architect/Engineer will not review submittals that do not bear Contractor's approval stamp and will return them without action.
- B. Action Submittals: Landscape Architect/Engineer will review each submittal, make marks to indicate corrections or modifications required, and return it. Landscape Architect/Engineer will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action taken.
  1. Landscape Architect/Engineer shall stamp submittals "No Exceptions Taken," "Furnish as Corrected," "Revise and Resubmit," or "Rejected."
  2. In any submittal that is noted "No Exceptions Taken," or "Furnish as Corrected," the review shall not extend to details or dimensions and shall not relieve the Contractor from his responsibility for compliance with the Contract Drawings and Specifications.
- C. Informational Submittals: Landscape Architect/Engineer will review each submittal and will not return it, or will reject and return it if it does not comply with requirements. Landscape Architect/Engineer will forward each submittal to appropriate party.

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- D. Submittals not required by the Contract Documents will not be reviewed and may be discarded.

END OF SECTION 01 33 00

**QUALITY REQUIREMENTS- 014000**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section includes administrative and procedural requirements for quality assurance and quality control.
- B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.
  - 1. Specific quality-control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
  - 2. Specified tests, inspections, and related actions do not limit Contractor's quality-control procedures that facilitate compliance with the Contract Document requirements.
  - 3. Requirements for Contractor to provide quality-control services required by Landscape Architect/Engineer, Owner, or authorities having jurisdiction are not limited by provisions of this Section.
- C. Related Sections include the following:
  - 1. Division 1 Section "Cutting and Patching" for repair and restoration of construction disturbed by testing and inspecting activities.
  - 2. Divisions 2 through 16 Sections for specific test and inspection requirements.

**1.2 DEFINITIONS**

- A. Quality-Assurance Services: Activities, actions, and procedures performed before and during execution of the Work to guard against defects and deficiencies and ensure that proposed construction complies with requirements.
- B. Quality-Control Services: Tests, inspections, procedures, and related actions during and after execution of the Work to evaluate that completed construction complies with requirements. Services do not include contract enforcement activities performed by Landscape Architect/Engineer.



- C. Mock-ups: Full-size, physical example assemblies to illustrate finishes and materials. Mockups are used to verify selections made under sample submittals, to demonstrate aesthetic effects and, where indicated, qualities of materials and execution, and to review construction, coordination, testing, or operation; they are not samples.
- D. Testing Agency: An entity engaged to perform specific tests, inspections, or both. Testing laboratory shall mean the same as testing agency.

1.3 DELEGATED DESIGN

- A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.
  - 1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

1.4 SUBMITTALS

- A. Qualification Data: For testing agencies specified in "Quality Assurance" Article to demonstrate their capabilities and experience. Include proof of qualifications in the form of a recent report on the inspection of the testing agency by a recognized authority.
- B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a licensed professional engineer in The State of Rhode Island, indicating that the products and systems are in compliance with performance and design criteria indicated. Include list of codes, loads, and other factors used in performing these services.
- C. Schedule of Tests and Inspections: Prepare in tabular form and include the following:
  - 1. Specification Section number and title.
  - 2. Description of test and inspection.
  - 3. Identification of applicable standards.
  - 4. Identification of test and inspection methods.
  - 5. Number of tests and inspections required.
  - 6. Entity responsible for performing tests and inspections.
- D. Reports: Prepare and submit certified written reports that include the following:
  - 1. Date of issue.
  - 2. Project title and number.
  - 3. Name, address, and telephone number of testing agency.
  - 4. Dates and locations of samples and tests or inspections.
  - 5. Names of individuals making tests and inspections.
  - 6. Description of the Work and test and inspection method.

7. Identification of product and Specification Section.
  8. Complete test or inspection data.
  9. Test and inspection results and an interpretation of test results.
  10. Ambient conditions at time of sample taking and testing and inspecting.
  11. Comments or professional opinion on whether tested or inspected Work complies with the Contract Document requirements.
  12. Name and signature of laboratory inspector.
  13. Recommendations on retesting and reinspecting.
- E. Permits, Licenses, and Certificates: For Owner's records, submit copies of permits, licenses, certifications, inspection reports, releases, notices, receipts for fee payments, judgments, correspondence, records, and similar documents, established for compliance with standards and regulations bearing on performance of the Work.

#### 1.5 QUALITY ASSURANCE

- A. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.
- B. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.
- C. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.
- D. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this project and with a record of successful in-service performance.
- E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in the State of Rhode Island and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installations of the system, assembly, or product that are similar to those indicated for this project in material, design, and extent.
- F. Testing Agency Qualifications: An agency with the experience and capability to conduct testing and inspecting indicated, as documented by ASTM E 548, and that specializes in types of tests and inspections to be performed.
- G. Preconstruction Testing: Testing agency shall perform preconstruction testing for compliance with specified requirements for performance and test methods.
1. Contractor responsibilities include the following:
    - a. Provide test specimens and assemblies representative of proposed materials and construction. Provide sizes and configurations of assemblies to adequately demonstrate capability of product to comply with

- performance requirements.
    - b. Submit specimens in a timely manner with sufficient time for testing and analyzing results to prevent delaying the work.
    - c. Fabricate and install test assemblies using installers who will perform the same tasks for Project.
    - d. When testing is complete, remove assemblies; do not reuse materials on project.
  - 2. Testing Agency Responsibilities: Submit a certified written report of each test, inspection, and similar quality-assurance service to Landscape Architect/Engineer, with copy to Contractor. Interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
- H. Mockups: Before installing portions of the Work requiring mockups, build mockups for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:
- 1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
  - 2. Notify Landscape Architect/Engineer seven days in advance of dates and times when mockups will be constructed.
  - 3. Demonstrate the proposed range of aesthetic effects and workmanship.
  - 4. Obtain Landscape Architect/Engineer's approval of mockups before starting work, fabrication, or construction.
  - 5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
  - 6. Demolish and remove mockups when directed, unless otherwise indicated.

1.6 QUALITY CONTROL

- A. Contractor Responsibilities: Unless otherwise indicated, provide quality-control services specified and required by authorities having jurisdiction.
- 1. Where services are indicated as Contractor's responsibility, or required by the Contract Documents and not part of the services provided by the Owner, Contractor shall engage a qualified testing agency to perform these quality-control services.
  - 2. Notify testing agencies at least 24 hours in advance of time when work that requires testing or inspecting will be performed.
  - 3. Where quality-control services are indicated as Contractor's responsibility, submit a certified written report, in duplicate, of each quality-control service.

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4. Testing and inspecting requested by Contractor and not required by the Contract Documents are Contractor's responsibility.
  5. Submit additional copies of each written report directly to authorities having jurisdiction, when they so direct.
  6. Costs for retesting and reinspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.
- B. Special Inspections: Contractor will engage a testing agency to conduct special inspections and testing required by authorities having jurisdiction as the responsibility of Owner.
1. Testing agency will notify Special Inspector, Landscape Architect/Engineer, and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
  2. Testing agency will submit a certified written report of each test, inspection, and similar quality-control service to Special Inspector and Landscape Architect/Engineer, with copy to Contractor and to authorities having jurisdiction.
  3. Special Inspector will submit a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
  4. Special Inspector will interpret tests and inspections and state in each report whether tested and inspected work complies with or deviates from the Contract Documents.
  5. Testing agency will retest and reinspect corrected work.
  6. The Schedule of Special Inspections for the project is attached to this Specification Section.
- C. Manufacturer's Field Services: Where indicated, engage a factory-authorized service representative to inspect field-assembled components and equipment installation, including service connections. Report results in writing.
- D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that revised or replaced Work that failed to comply with requirements established by the Contract Documents.
- E. Testing Agency Responsibilities: Cooperate with Landscape Architect/Engineer and Contractor in performance of duties. Provide qualified personnel to perform required tests and inspections.
1. Notify Landscape Architect/Engineer and Contractor promptly of irregularities or deficiencies observed in the work during performance of its services.
  2. Interpret tests and inspections and state in each report whether tested and inspected

work complies with or deviates from requirements.

3. Submit a certified written report, in duplicate, of each test, inspection, and similar quality-control service through Contractor.
  4. Do not release, revoke, alter, or increase requirements of the Contract Documents or approve or accept any portion of the work.
  5. Do not perform any duties of Contractor.
- F. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:
1. Access to the work.
  2. Incidental labor and facilities necessary to facilitate tests and inspections.
  3. Adequate quantities of representative samples of materials that require testing and inspecting. Assist agency in obtaining samples.
  4. Facilities for storage and field-curing of test samples.
  5. Preliminary design mix proposed for use for material mixes that require control by testing agency.
  6. Security and protection for samples and for testing and inspecting equipment at project site.
- G. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and quality-control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.
1. Schedule times for tests, inspections, obtaining samples, and similar activities.
- H. Schedule of Tests and Inspections: Prepare a schedule of tests, inspections, and similar quality-control services required by the Contract Documents. Submit schedule within 30 days of date established for the Notice to Proceed.
1. Distribution: Distribute schedule to Owner, Landscape Architect/Engineer, testing agencies, and each party involved in performance of portions of the work where tests and inspections are required.
- I. Testing lab costs, other than Special Inspections and tests not required in the Construction Documents, shall be paid by the Contractor. The Contractor shall be responsible for the coordination and scheduling of all testing services. No additional costs shall be incurred by the Owner and no time extensions shall be granted because of the Contractor's failure to coordinate and schedule testing in a timely manner or as required by the work progress.

**PART 2 - PRODUCTS (Not Used)**

PART 3 - EXECUTION

3.1 REPAIR AND PROTECTION

- A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.
  - 1. Comply with the Contract Document requirements for Division 1 Section "Cutting and Patching."
- B. Protect construction exposed by or for quality-control service activities.
- C. Repair and protection are Contractor's responsibility, regardless of the assignment of responsibility for quality-control services.

END OF SECTION 01 40 00

## REFERENCES - 014200

### PART 1 - GENERAL

#### 1.1 DEFINITIONS

- A. General: Basic Contract definitions are included in the Conditions of the Contract.
- B. "Approved": The term "approved," when used to convey Landscape Architect/Engineer's action on Contractor's submittals, applications, and requests, is limited to Landscape Architect/Engineer's duties and responsibilities as stated in the Conditions of the Contract.
- C. "Directed": Terms such as "directed," "requested," "authorized," "selected," "approved," "required," and "permitted" mean directed by Landscape Architect/Engineer, requested by Landscape Architect/Engineer, and similar phrases.
- D. "Indicated": The term "indicated" refers to graphic representations, notes, or schedules on Drawings or to other paragraphs or schedules in Specifications and similar requirements in the Contract Documents. Terms such as "shown," "noted," "scheduled," and "specified" are used to help the user locate the reference.
- E. "Regulations": The term "regulations" includes laws, ordinances, statutes, and lawful orders issued by authorities having jurisdiction, as well as rules, conventions, and agreements within the construction industry that control performance of the Work.
- F. "Furnish": The term "furnish" means to supply and deliver to Project site, ready for unloading, unpacking, assembly, installation, and similar operations.
- G. "Install": The term "install" describes operations at project site including unloading, temporarily storing, unpacking, assembling, erecting, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations.
- H. "Provide": The term "provide" means to furnish and install, complete and ready for the intended use.
- I. "Proposed": The term "proposed" means to furnish and install, complete and ready for the intended use.
- J. "Installer": An installer is the Contractor or another entity engaged by Contractor as an employee, Subcontractor, or Sub-subcontractor, to perform a particular construction operation, including installation, erection, application, and similar operations.
- K. The term "experienced," when used with an entity, means having successfully completed a minimum of five previous projects similar in size and scope to this project; being familiar with special requirements indicated; and having complied with requirements of authorities having jurisdiction.
  - 1. Using a term such as "carpentry" does not imply that certain construction activities must be performed by accredited or unionized individuals of a corresponding

generic name, such as "carpenter." It also does not imply that requirements specified apply exclusively to tradespeople of the corresponding generic name.

- L. "Project Site" is the space available for performing construction activities. The extent of Project site is shown on Drawings and may or may not be identical with the description of the land on which Project is to be built.

## 1.2 INDUSTRY STANDARDS

- A. **Applicability of Standards:** Unless the Contract Documents include more stringent requirements, applicable construction industry standards have the same force and effect as if bound or copied directly into the Contract Documents to the extent referenced. Such standards are made a part of the Contract Documents by reference.
- B. **Publication Dates:** Comply with standards in effect as of date of the Contract Documents, unless otherwise indicated.
- C. **Conflicting Requirements:** If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with the most stringent requirement. Refer uncertainties and requirements that are different, but apparently equal, to Landscape Architect/Engineer for a decision before proceeding.
  - 1. **Minimum Quantity or Quality Levels:** The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply exactly with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Landscape Architect/Engineer for a decision before proceeding.
- D. **Copies of Standards:** Each entity engaged in construction on project must be familiar with industry standards applicable to its construction activity. Copies of applicable standards are not bound with the Contract Documents.
  - 1. Where copies of standards are needed to perform a required construction activity, obtain copies directly from publication source and make them available on request.
- E. **Abbreviations and Acronyms for Industry Organizations:** Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the attached list. Names, telephone numbers, and Web site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.
- F. **Abbreviations and Acronyms for Code Agencies:** Where abbreviations and acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the attached. Names, telephone numbers, and Web site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.
- G. **Abbreviations and Acronyms for Federal Government Agencies:** Where abbreviations and



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acronyms are used in Specifications or other Contract Documents, they shall mean the recognized name of the entities in the attached list. Names, telephone numbers, and Web site addresses are subject to change and are believed to be accurate and up-to-date as of the date of the Contract Documents.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 42 00

## PROJECT REQUIREMENTS - 014500

### PART 1 - GENERAL

#### 1.1 PROJECT REQUIREMENTS

- A. General: This Section identifies Project Requirements and defines terms not otherwise included in the remainder of the Construction Documents.

#### 1.2 SUPERVISION AND CONSTRUCTION PROCEDURES

- A. The Contractor shall coordinate the work of the various trades required for the project to assure the efficient and orderly sequence of installation of construction elements. The Contractor will verify that characteristics of interrelated equipment are compatible, and shall coordinate the work of various trades having interdependent responsibilities for installing, connecting and placing equipment in service.
- B. The Contractor and each Subcontractor will verify all new and existing dimensions for all built-in work and/or work adjoining that of other trades, before ordering any material or doing any work. They will be responsible for the correction of all dimensions found to be in error. Any discrepancy in dimensioning will be submitted, in writing, to the Landscape Architect/Engineer for his consideration, before proceeding with the work.
- C. The Contractor will notify "Dig Safe," at least three (3) full working days before any proposed excavation activity. The Contractor will provide the Landscape Architect/Engineer with written evidence of a Dig Number and Start Date prior to commencing any excavation work. The Contractor will have full responsibility for maintaining and protecting original utility mark-outs and for periodically notifying "Dig Safe" in accordance with State requirements. Should the Contractor require additional mark-outs as a result of the Contractor's failure to adequately protect the original mark-outs, the Contractor will bear the cost for those additional mark-outs.
- D. The Contractor will satisfy himself regarding the accuracy of the base lines, benchmarks, etc., established by the Land Surveyor. He will protect all such stakes and/or marks as required to hold them free from damage or displacement, until they are no longer needed, or to the Date of Substantial Completion.

#### 1.3 SPECIAL PROCEDURES FOR THE PROJECT

- A. "Plan of Use": The Contractor shall prepare a "Plan of Use" for the Project which shall describe in detail the Contractor's proposed use of the Site, both inside and outside the Contract Limit Area. The "Plan of Use" shall include, but not be limited to, the following: **phasing of the project**, including coordination and interaction with the Owner, allowances for Owner mobilization between phases, proposed vehicle and equipment access routes, locations of proposed storage areas, office trailer and dumpster locations, location of perimeter construction

fencing and gates, other ground level protection measures around the Site, proposed pedestrian traffic flows around the Site and coordination with staging areas of other, concurrent projects at the Project Site. The Contractor shall submit the "Plan of Use" to the Landscape Architect/Engineer for approval within seven (7) calendar days of the award of the first Contract for Construction, and work on the Project shall not commence until an acceptable "Plan of Use" has been approved by the Landscape Architect/Engineer and by the Owner. Any delay in the Project caused by the Contractor's failure to submit an acceptable "Plan of Use" shall not alter the Contractor's responsibility to complete the work by the date of Substantial Completion as set forth in the remainder of the Documents.

- B. The Contractor shall protect persons entering and exiting the building and construction area from falling debris by any measures necessary, including the construction of temporary covered walkways.
- C. The Contractor shall protect the site and keep it in a clean and orderly condition. Construction debris will be cleaned up and disposed of daily. Existing site features scheduled to remain, including existing walks, driveways, parking lots, and planting and lawn areas are to be kept free of construction materials and debris.
- D. Any existing site conditions which are disturbed by construction activities shall be restored by the Contractor to their original condition at the Contractor's cost. The Landscape Architect/Engineer shall judge the conditions to be restored by the Contractor and final payment will not be made until those conditions are restored.

#### 1.4 SPECIAL PROCEDURES FOR THE PROJECT

- A. Weapons or Intoxicants: No person employed on this Project will bring intoxicants or any type of weapon onto the Site.
- B. Fraternalization of Harassment: The Contractor is advised to avoid personal contact and fraternization with, and to respect the rights and privacy of, adjacent building occupants and people visiting adjacent buildings or the construction site.
- C. Smoking: Smoking shall not be permitted on site.

#### 1.5 SITE DOCUMENTS

- A. CONTRACT DOCUMENTS: The Contractor shall maintain at the Site one clean copy of the Contract Documents (Drawings and Project Manual), Addenda, approved Shop Drawings, Change Orders, Change Directives, etc., in good order with up-to-date Project information, which will be available to the Landscape Architect/Engineer and Client at all times.
- B. RECORD DOCUMENTS: The Contractor will maintain at the Site one set of the Contract Documents listed in 1.5.A which will be entitled "Record Documents." The Contractor and its Contractor/Subcontractors shall record any and all changes to the Contract Documents as soon as they occur. The "Record Documents" will be available to the Landscape Architect/Engineer and Client at all times.

1.6 MANUFACTURER'S INSTRUCTIONS

- A. When the Contract Documents require that installation of any part of the work will comply with a manufacturer's printed instructions, the Contractor shall obtain and distribute copies of such instructions to parties involved in the installation, including one copy to the Landscape Architect/Engineer.
  - .1 Maintain one (1) complete set of instructions at the Site during installation and until the Date of Substantial Completion.
- B. The Contractor shall handle, install, connect, clean, condition and adjust products in strict accordance with such instructions, and in conformity with specified requirements.
  - .1 Should job conditions or specified requirements conflict with manufacturer's instructions, the Contractor shall consult with the Landscape Architect/Engineer for further instructions.
  - .2 The Contractor will not proceed with the work without clear instructions.
- C. The Contractor shall perform all work in accordance with the manufacturer's instructions. Do not omit any preparatory step or installation procedure unless it is specifically modified or deleted by the Contract Documents.

1.7 TRAFFIC WAYS

- A. The Contractor may use on-site paved roads and parking areas, as approved by the Owner, but will not block, encumber or otherwise obstruct the same. Public roadways will not be blocked by standing trucks, parked cars, material storage, and construction operations or in any other manner. The Owner will designate an area(s) within or outside of the Contract Limit Lines in which construction vehicles, dumpsters, etc., may be located, which shall be incorporated into the Contractor's "Plan of Use" per Article 1.3.A.
- B. The Contractor shall keep public roads and existing paved roads and driveways and parking areas on the Owner's property free of scrap or debris due to construction operations. The Contractor will repair, at the Contractor's expense, any damage to the surface of the roadways caused by the Contractor's construction operations.
- C. As the work of the Contract affects public use of a street, road or highway, the Contractor shall confer with the police authority having jurisdiction to determine if and how many police are needed for public safety in addition to any barriers and signals that may be needed. The Contractor shall be responsible for payment of any required police or traffic control services, and shall include the cost of those services as part of the Base Contract.

1.8 TEMPORARY CONTROLS

- A. During the progress of the work, the Contractor will conduct his operations and provide adequate pollution controls to minimize the creation and dispersion of noise, odors, dust, dirt, and/or mud within and beyond the Site. The controls will be implemented to the satisfaction of the Owner, to the extent required to assure the Owner's continued use of its remainder of the facilities on site.
- B. Should the Owner's use of its facilities be denied or interrupted by the failure of the Contractor to provide adequate controls, as specified above, the Contractor will be required to cease operations until adequate controls are provided. All costs incurred in such a cessation of operations will be born by the Contractor. No extension of time will be granted due to such a cessation in operations.

1.9 CONSTRUCTION PHOTOGRAPHS/VIDEOTAPES

- A. The City of Warwick or the Landscape Architect/Engineer may take progress photographs or videotapes at any time during the construction process. The Contractor will, at all times, allow unobstructed access to the work for this purpose.

1.10 SIGNAGE

- A. The Contractor will provide a Construction Sign. All entities designated on the project cover sheet shall be listed with minimum 3" high lettering. City of Warwick will provide detail for construction signage.
- B. Contractor shall provide all OSHA required signage. Contractor shall provide no trespassing signs around the site perimeter, Authorized Personal Only on the gates, all warning signs, all informational and traffic signs as required.

1.11 REQUESTS FOR INFORMATION (RFI)

- A. Bidding and Construction Requests for Information are formal queries from the Contractor seeking interpretation of Construction Document requirements or information not otherwise available in the Construction Documents. RFIs shall clearly and concisely set forth the issue for which interpretation or information is sought, and why a response is needed from the Landscape Architect/Engineer. RFIs shall describe the requesting party's understanding of the Contract Document requirement in question, along with reasons why this understanding has been reached. Responses from the Landscape Architect/Engineer shall not change any requirements of the Contract Documents.
- B. Routine written communications between the Owner, the Landscape Architect/Engineer and the Contractor shall be in letter or field memo format. Such communications shall not be identified as Requests for Information nor shall they substitute for any other written requirements pursuant to the provisions of these Contract Documents.
- C. In the event that the Contractor determines that some portion of the Contract

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Documents require interpretation or additional information by the Owner or Landscape Architect/Engineer, the Contractor shall submit a Request for Information (RFI) in writing to the Landscape Architect/Engineer. RFIs may only be submitted by the Contractor and not by Subcontractors, although Subcontractor correspondence may be attached by the Contractor to the RFI as supporting documentation.

- D. The Landscape Architect/Engineer will review all RFIs to determine whether they are Requests for Information with- in the meaning of this term. If the Landscape Architect/Engineer determines that the document is not an RFI, said document will be returned to the Contractor, unreviewed as to content, for resubmittal in the proper form and in the proper manner.
- E. RFI's shall be consecutively numbered. The Contractor shall maintain an RFI log for the duration of the Project. The Contractors log shall be distributed to the Landscape Architect/Engineer and the Client on a weekly basis. Communications determined by the Landscape Architect/Engineer not to be RFIs shall be removed from the log, and their assigned number re-used so that the log will reflect consecutive RFI numbers without gap.
- F. Responses to RFIs will be issued within fourteen (14) calendar days of receipt of the request from the Contractor, unless the Landscape Architect/Engineer determines that a longer time is required to provide an adequate response. If a longer time is determined to be required by the Landscape Architect/Engineer, the Landscape Architect/Engineer will, within seven (7) calendar days of receipt of request, notify the Contractor of the anticipated response time. The Contractor shall not be allowed any time extensions on the project because of RFIs, unless the Landscape Architect/Engineer is unable to provide a response within the allocated fourteen (14) calendar days.
- G. Responses from the Landscape Architect/Engineer shall not change any requirements of the Contract Documents. In the event the Contractor believes that a response to an RFI will cause a change in the Construction Documents, the Contractor shall, within seven (7) calendar days, give written notice to the Landscape Architect/Engineer stating that the response to the RFI will cause changes to the requirements of the Construction Documents. Failure to give such notice shall waive the Contractor's right to seek additional time or cost under the Contract Modification Procedures Article of these Specifications.

1.12. CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

- A. Where discrepancies or conflict occur:
  - 1 Amendments and Addenda shall take precedence over the Specifications.
  - 2 The Specifications shall take precedence over the Drawings.
  - 3 Stated dimensions shall take precedence over scaled dimensions.
  - 4 Large-scale detail drawings shall take precedence over small-scale drawings.
  - 5 Schedules shall take precedence over other data on the drawings.

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6. In case of a difference between Drawings and Specifications or within either document itself in describing the work, the better quality, greater quantity or more costly work will be assumed to be desired and shall be included in the Contractor's Bid and in the Contract price. Refer the matter to the Landscape Architect/Engineer's attention for resolution after the Contract is awarded.
7. All work shown or referred to in the Contract Documents shall be included in the Contract excepting those items which are specifically noted as being "provided under an- other contract," or "provided by the Owner," or "by others," or "not in contract (NIC)."
8. Parties to the Contract shall not take advantage of any obvious error or apparent discrepancy in the Contract Documents. Notice of any discovered error or discrepancy shall immediately be given in writing to the Landscape Architect/Engineer to make such corrections and interpretations as he may deem necessary for completion of the work in a satisfactory and acceptable manner.
9. Requirements stated in Divisions 1 to 33 of these Contract Documents shall take precedence over requirements of other parts of the Project Manual.

1.13. COMMUNICATIONS TO THE LANDSCAPE ARCHITECT/ENGINEER

- A. All Communications to the Landscape Architect/Engineer shall be addressed to:

Dominick Celtruda  
BL Companies  
2346 Post Road, Suite 100  
Warwick, RI 02886

1.14. CONFLICTING REQUIREMENTS

- A. In case of conflicts between Division 1 requirements and those requirements outlined in the Contract General and Supplementary Conditions, the most stringent requirement shall prevail.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 01 45 00

## CUTTING AND PATCHING - 017310

### PART 1 - GENERAL

#### 1.1 INCLUDED IN THIS SECTION

- A. General cutting and patching.
- B. Specific cutting and patching requirements.

#### 1.2 CUTTING AND PATCHING - GENERAL

- A. Contractor shall be responsible for any alteration of existing work and cutting, patching of work as required by the installation of materials or performance of labor in contract.
- B. Match existing products and work for patching and extending work.
  - 1. New materials as specified in individual sections.
  - 2. Determine type and quality of existing products by inspection and any necessary testing, and workmanship by use of existing as a standard. Presence of a product, finish, or type of work, requires that patching, extending, or matching shall be performed as necessary to make work complete and consistent with specifications.
  - 3. Refinish visible existing surfaces to remain in renovated rooms and spaces, to specified condition for each material, with a neat transition to adjacent new finishes.
- C. Do not cut structural members without first consulting and/or review intended procedures with Engineer. Contractor shall keep a written record of consulting and distributed this information to all relevant parties prior to proceeding. If the situation is of an unforeseen condition, prior to proceeding the Contractor shall submit a written Request for Information (RFI) to the Landscape Architect/Engineer.
- D. Protect existing items.
- E. Bid Package Contractors are responsible for any cutting, scoring and patching in the performance of their work due to the lack of installing sleeves or blocking in walls, floors or foundations.
  - 1. Remove, cut and patch work in a manner to minimize damage and to provide means of restoring products and finishes to original or specified condition.
- F. Transitions
  - 1. Where new work abuts or aligns with existing, make a smooth and even transition. Patched work shall match existing adjacent work in texture and appearance.
  - 2. Finish patches to produce uniform finish and texture over entire area. When finish cannot be matched, refinish entire surface to nearest intersections.



3. When finished, surfaces are cut so that a smooth transition with new work is not possible, terminate existing surface along a straight line at a natural line of division and make recommendations to Landscape Architect/Engineer.

## PART 2 - SUBMITTALS AND JOB CONDITIONS

### 2.1 SUBMITTALS

- A. Schedule: Submit schedule indicating proposed methods and sequence of operations for cutting and patching work to Owner's Representative for review prior to commencement of work. Include coordination for shut-off, capping, and continuation of utility services as required, together with details for dust and noise control protection.

Provide detailed sequence of cutting and patching and removal work to ensure uninterrupted progress of Owner's on-site operations.

### 2.2 JOB CONDITIONS

- A. Protections: Provide temporary barricades and other forms of protection as required to protect Owner's personnel and general public from injury due to cutting and patching work.
  1. Provide protective measures as required to provide free and safe passage of Owner's personnel and general public to and from building.
  2. Erect temporary covered passageways as required by authorities having jurisdiction.
  3. Provide interior shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished, and adjacent facilities or work to remain.
  4. Protect from damage existing finish work that is to remain in place and becomes exposed during cutting and patching operations.
  5. Protect finished floors with suitable coverings.
  6. Construct temporary fire-rated and insulated solid dustproof partitions to separate work area from the remainder of the school complex.
  7. Provide temporary weather protection during interval between demolition and removal of existing construction on exterior surfaces, and installation of new construction to ensure that no water leakage or damage occurs to structure or interior areas of existing building.
  8. Remove protections at completion of work.
- E. Damages: Promptly repair damages caused by cutting and patching work at no cost to Owner.

- F. Traffic: Conduct cutting and patching operations and debris removal in a manner to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.

Do not close, block or otherwise obstruct streets, walks or other occupied or used facilities without written permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

- G. Explosives: Use of explosives will not be permitted.
- H. Utility Services: Maintain existing utilities to remain, keep in service, and protect against damage during cutting and patching operations.
- I. Environmental Controls: Use water sprinkling, temporary enclosures, and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.

Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.

### PART 3 - CUTTING AND PATCHING SUBMITTALS AND JOB CONDITIONS

#### 3.1 INSPECTION

- A. Prior to commencement of cutting and patching work, inspect areas in which work will be performed. Photograph existing conditions to structure, surfaces, equipment or to surrounding properties which could be misconstrued as damage resulting from cutting and patching work. Submit these documents to the Landscape Architect/Engineer prior to starting work.

#### 3.2 PREPARATION

- A. Provide interior shoring, bracing, or support to prevent movement, settlement or collapse of structures to be demolished and adjacent facilities to remain.

Cease operations and notify the Owner's Representative immediately if safety of structure appears to be endangered. Take precautions to support structure until determination is made for continuing operations.

- B. Cover and protect furniture, equipment and fixtures to remain from soiling or damage when cutting and patching work is performed in rooms or areas from which such items have not been removed.

- C. Erect and maintain dust-proof partitions and closures as required to prevent spread of dust or fumes.

Provide weatherproof closures for exterior openings resulting from cutting and patching work.

- D. Locate, identify, stub off and disconnect utility services that are not indicated to remain. Provide by-pass connections as necessary to maintain continuity of service, if required. Provide minimum of 72 hours advance notice to Owner if shut-down of service is necessary during change-over.

### 3.3 CUTTING AND PATCHING

- A. Perform removal, relocation and cutting and patching work in a systematic manner. Use such methods as required to complete work indicated on Drawings in accordance with cutting and patching schedule and governing regulations.
  - 1. Demolish masonry in small sections. Cut masonry at junctures with construction to remain using power-driven masonry saw or hand tools; do not use power-driven impact tools.
  - 2. Provide services for effective air and water pollution controls as required by local authorities having jurisdiction.
  - 3. For interior work, use removal methods that will not crack or structurally disturb adjacent floors or partitions.
- B. If unanticipated mechanical, electrical or structural elements which conflict with intended function or design are encountered, investigate and measure both nature and extent of the conflict. Submit report to Landscape Architect/Engineer in written, accurate detail. Pending receipt of directive from Landscape Architect/Engineer rearrange cutting and patching schedule as necessary to continue overall job progress without delay.

### 3.4 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove debris, rubbish and other materials resulting from cutting and patching operations from building site. Transport and legally dispose of materials off site.
- B. If hazardous materials are encountered during cutting and patching operations, comply with applicable regulations, laws, and ordinances concerning removal, handling and protection against exposure or environmental pollution.
- C. Burning of removed materials is not permitted on project site.

### 3.5 CLEAN-UP AND REPAIR

- A. Upon completion of cutting and patching work, remove tools, equipment and demolished materials from site. Remove protections and leave interior areas broom clean.
- B. Repair cutting and patching performed in excess of that required. Return structures and surfaces to remain to condition existing prior to commencement of cutting and patching work. Repair adjacent construction or surfaces soiled or damaged by cutting and patching work.

END OF SECTION 01 73 10

## **SELECTIVE DEMOLITION - 017320**

### PART 1 - GENERAL

#### 1.1 SUMMARY

- A. Work Included: The work of this Section includes, but is not limited to, the following:
1. Selective demolition and removal of portions of the existing site as required to accommodate the new work. Scope shall include, but not be limited to, the following, and as indicated on the Drawings:
    - a. Removal of existing concrete, masonry, miscellaneous steel work, asphalt, and existing items in the way of new construction.
  2. Temporary protections, enclosures, and similar protections for utilities, structures and persons.
  3. Relocation of pipes, conduits, ducts, and other mechanical and electrical work (including equipment).
  4. Legal disposal of demolished materials.

#### 1.2 DEFINITIONS

- A. Remove: Remove and legally dispose of items except those indicated to be reinstalled, salvaged, or to remain the Owner's property.
- B. Remove and Salvage: Items indicated to be removed and salvaged remain the Owner's property. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.
- C. Remove and Reset: Items indicated to be removed and reset at the Owner's property in original location or as close to it as new site condition permit. Remove, clean, and pack or crate items to protect against damage. Identify contents of containers and deliver to Owner's designated storage area.
- D. Existing to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by the Landscape Architect/Engineer, items may be removed to a suitable, protected storage location during selective demolition and then cleaned and reinstalled in their original locations.

#### 1.3 SUBMITTALS

- A. Schedule: Submit a proposed schedule of operations for selective demolition for review prior to start of work. Include coordination for shutoff, capping, and continuation of utility services as required. Submit details for dust and noise control.
1. Provide detailed sequence of demolition and removal work to ensure uninterrupted use of the

building.

- B. Photographs: Photograph existing conditions of structure surfaces, equipment, and adjacent improvements that might be misconstrued as damage related to removal operations. File with Owner's Representative prior to start of work.
- C. Contractor shall provide shop drawings and calculations for all temporary supports, shoring and bracing required. Comply with Building Code requirements for preparation of submittals and do all required filing. Drawings and calculations for shoring and bracing shall be signed and sealed by a State of Rhode Island licensed Professional Engineer.

#### 1.4 QUALITY ASSURANCE

- A. Demolition Firm Qualifications: Engage an experienced firm that has successfully completed Selective Demolition work similar to that indicated for this Project.
- B. Regulatory Requirements: Comply with governing EPA, DEM and CRMC notification regulations before starting selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
  - 1. All removal and demolition work shall comply with requirements of State and Local Building Codes, OSHA, and other local governing authority having jurisdiction.
- C. Predemolition Conference: Conduct conference at Project site to comply with requirements in Division 1 – General Requirements and Bid Documents. Review methods and procedures related to selective demolition including, but not limited to, the following:
  - 1. Inspect and discuss condition of construction to be selectively demolished.
  - 2. Review structural load limitations of existing structure.
  - 3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
  - 4. Review requirements of work performed by other trades that rely on substrates exposed by selective demolition operations.
  - 5. Review areas where existing construction is to remain and requires protection.
- D. Notify appropriate agencies of any hazardous materials found at the site. Do not proceed with removal of said substances until so instructed.

#### 1.5 JOB CONDITIONS

- A. Traffic: Conduct demolition operations and removal of debris to ensure minimum interference with occupied portions of the building and other adjacent facilities.
  - 1. Do not close or block pathways, entrances, or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.
  - 2. The Contractor shall provide, and maintain, at his/her own expense, permits, lights, barriers, sheds, and other items that are required by traffic regulations or local law.
- B. Protections: Provide temporary barricades and other forms of protection as required to protect personnel from injury due to selective demolition work.

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1. Provide shoring, bracing, or support to prevent movement, settlement, or collapse of structure or element to be demolished, and adjacent facilities or work to remain.
- C. Damages: Promptly repair damages caused to adjacent spaces by demolition work at no cost to Owner.
- D. Utility Services: Contractor to arrange for disconnecting and sealing of any utilities serving structures to be demolished, moved, or relocated, prior to start of demolition work.
  1. Maintain and protect existing utilities to remain. Protect against damage during selective demolition operations.
  2. Do not interrupt existing utilities, except when authorized in writing by Owner and coordinated with the Contractor.
- E. Environmental Controls: Use temporary enclosures, and other suitable methods to limit dust and dirt to lowest practical level. Comply with governing regulations for environmental protection.
- F. Hazardous Materials: It is expected that hazardous materials will be encountered in the work. Coordinate with appropriate Specification Section (See Paragraph 1.01.5 in this Specification Section).
  1. If materials suspected of containing hazardous materials are encountered, do not disturb; immediately notify Landscape Architect/Engineer and Owner. Owner will remove hazardous materials under a separate contract.

## PART 2 - PRODUCTS

### 2.1 REPAIR MATERIALS

- A. General: Use repair materials identical to existing materials.
  1. Where identical materials are unavailable or cannot be used for exposed surfaces, use materials that visually match existing adjacent surfaces to the fullest extent possible; repair materials and workmanship are subject to the Landscape Architect/Engineers acceptance/approval.
  2. Use materials whose installed performance equals or surpasses that of existing materials.

## PART 3 - EXECUTION

### 3.1 INSPECTION

- A. General: Prior to the commencement of all demolition work, inspect areas in which work will be performed. Photograph existing conditions which could be misconstrued as damage resulting from demolition work; file with Owner's Representative prior to starting work.
- B. Verify that utilities have been disconnected and capped.
- C. Survey existing conditions and correlate with requirements indicated to determine extent of

demolition required.

- D. Inventory and record the condition of items to be removed and reinstalled and items to be removed and salvaged.
- E. Survey the condition of the area or building to determine whether removing any element might result in a structural deficiency or unplanned collapse of any portion of the structure or adjacent structures during demolition.
- F. Perform surveys as the work progresses to detect hazards resulting from demolition activities.

### 3.2 UTILITY SERVICES

- A. Maintain existing utilities indicated to remain in service and protect them against damage during demolition operations.
- B. Service/System Requirements: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
  - 1. Do not interrupt existing utilities serving occupied, operating, or adjacent facilities, except when authorized in writing by Owner and authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to Owner and to governing authorities.
  - 2. Provide not less than 72 hours' notice to Owner if shutdown of service is required during changeover.

### 3.3 PREPARATION

- A. Drain, purge, or otherwise remove, collect, and dispose of chemicals, gases, explosives, acids, flammables, or other dangerous materials before proceeding with demolition operations.
- B. Conduct demolition operations and remove debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
- C. Conduct demolition operations to prevent injury to people and damage to adjacent rooms and facilities to remain. Ensure safe passage of people around demolition area. Coordinate with additional requirements specified in Division 1 of the specifications.
- D. Erect temporary protection where required by authorities having jurisdiction.

### 3.4 POLLUTION CONTROLS

- A. Use water mist, temporary enclosures, and other suitable methods to limit the spread of dust and dirt. Comply with governing environmental protection regulations.
  - 1. Do not create hazardous or objectionable conditions, such as ice, flooding, and pollution, when using water.
- B. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.

- C. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition existing before start of demolition.

### 3.5 SELECTIVE DEMOLITION

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete work within limitations of governing regulations and as follows:
  - 1. Proceed with selective demolition systematically, from higher to lower level.
  - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. To minimize disturbance of adjacent surfaces, use hand or small power tools designed for sawing or grinding, not hammering, and chopping. Temporarily cover and barricade openings to remain in compliance with these documents and authorities having jurisdiction.
  - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
  - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
  - 5. Maintain adequate ventilation when using cutting torches.
- B. Concrete: Demolish concrete in small sections. Cut masonry at junctures with construction to remain, using power-driven masonry saw or hand tools; do not use power-driven impact tools.
  - 1. Break up and remove materials to the extent indicated, and as required to accommodate the proposed construction.

### 3.6 PATCHING AND REPAIRS

- A. Promptly patch and repair holes and damaged surfaces caused to adjacent construction by selective demolition operations.
- B. Where repairs to existing surfaces are required, patch to produce surfaces suitable for new materials.
  - 1. Completely fill holes and depressions in existing masonry walls to remain with an approved masonry patching material, applied according to manufacturer's printed recommendations.
- C. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction to remain in a manner that eliminates evidence of patching and refinishing.
- D. Patch and repair surfaces in the new space where demolished walls or partitions extend one finished area into another. Provide a flush and even surface of uniform color and appearance.

### 3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Promptly dispose of demolished materials. Do not allow demolished materials to



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accumulate on-site. Do not burn demolished materials. Transport demolished materials off property and legally dispose of them.

3.8 CLEANING

- A. Sweep the building broom clean on completion of selective demolition operation.

END OF SECTION 01 73 20

## WARRANTIES AND BONDS - 017400

### PART 1 - GENERAL

#### 1.1 DESCRIPTION OF WORK

- A. This Section specifies general administrative and procedural requirements for warranties required by the Contract Documents, including manufacturer's standard warranties on products and special warranties.
1. Refer to the General Conditions for terms of the Contractor's special warranty of workmanship and materials.
  2. General closeout requirements are included in Section "Project Closeout."
  3. Certifications and other commitments and agreements for continuing services to Owner are specified elsewhere in the Contract Documents.
- B. Disclaimers and Limitations: Manufacturer's disclaimers and limitations on product warranties do not relieve the Contractor of the warranty on the Work that incorporates the products, nor does it relieve suppliers, manufacturers, and subcontractors required to countersign special warranties with the Contractor.

#### 1.2 DEFINITIONS

- A. Standard Product Warranties are preprinted written warranties published by individual manufacturers for particular products and are specifically endorsed by the manufacturer to the Owner.
- B. Special Warranties are written warranties required by or incorporated in the Contract Documents, either to extend time limits provided by standard warranties or to provide greater rights for the Owner.

#### 1.3 WARRANTY AND BOND REQUIREMENTS

- A. Contractor will be required to provide a performance bond and labor and materials payment bond in the amount of 100% of the bid.
- B. Related Damages and Losses: When correcting warranted Work that has failed, remove and replace other Work that has been damaged as a result of such failure or that must be removed and replaced to provide access for correction of warranted Work.
- C. For all major pieces of equipment, submit a warranty from the equipment manufacturer. The manufacturer's warranty period shall be concurrent with the Contractor's for one (1) year, unless otherwise specified, commencing at the time of substantial completion.
- D. Reinstatement of Warranty: When Work covered by a warranty has failed and been corrected by replacement or rebuilding, reinstate the warranty by written endorsement. The reinstated warranty shall be equal to the original warranty with an equitable adjustment for depreciation.
- E. Replacement Cost: Upon determination that Work covered by a warranty has failed,

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replace or rebuild the Work to an acceptable condition complying with requirements of Contract Documents. The Contractor is responsible for the cost of replacing or rebuilding defective Work regardless of whether the Owner has benefited from use of the Work through a portion of its anticipated useful service life.

- F. **Owner's Recourse:** Written warranties made to the Owner are in addition to implied warranties, and shall not limit the duties, obligations, rights and remedies otherwise available under the law, nor shall warranty periods be interpreted as limitations on time in which the Owner can enforce such other duties, obligations, rights, or remedies.
1. **Rejection of Warranties:** The Owner reserves the right to reject warranties and to limit selections to products with warranties not in conflict with requirements of the Contract Documents.
  2. The Owner reserves the right to refuse to accept work for the project where a special warranty, certification, or similar commitment is required on such Work or part of the Work, until evidence is presented that entities required to countersign such commitments are willing to do so.

1.4 SUBMITTALS

- A. Submit written warranties to the Engineer at the time of Substantial Completion. The start date of all project warranties shall be the date of Substantial Completion for the Project.
- B. When a special warranty is required to be executed by the Contractor, or the Contractor and a subcontractor, supplier or manufacturer, prepare a written document that contains appropriate terms and identification, ready for execution by the required parties. Submit a draft to the Owner through the Landscape Architect/Engineer for approval prior to final execution.
- C. **Form of Submittal:** At Final Completion compile two copies of each required warranty and bond properly executed by the Contractor, or by the Contractor, subcontractor, supplier, or manufacturer. Organize the warranty documents into an orderly sequence based on the table of contents of the Project Manual.

PART 2 - PRODUCTS (NOT APPLICABLE)

PART 3 - EXECUTION (NOT APPLICABLE)

END OF SECTION 01 74 00

**PROJECT CLOSEOUT - 017700**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. This Section includes administrative and procedural requirements for contract closeout, including, but not limited to, the following:
1. Inspection procedures.
  2. Project Record Documents.
  3. Operation and maintenance manuals.
  4. Instruction of Owner's personnel.
  5. Final cleaning.
- B. Related Sections include the following:
1. Division 1 Section "Payment Procedures" for requirements for Applications for Payment for Substantial and Final Completion.
  2. Division 1 Section "Warrantees and Bonds" for warrantee submittal requirements.
  3. Divisions 2 through 34 Sections for specific closeout and special cleaning requirements for products of those Sections.

**1.2 SUBSTANTIAL COMPLETION**

- A. Preliminary Procedures: Before requesting inspection for determining date of Substantial Completion, complete the following. List items below that are incomplete in request.
1. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the work is not complete.
  2. Advise Owner of pending insurance changeover requirements.
  3. Submit specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
  4. Obtain and submit releases permitting Owner unrestricted use of the work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.

5. Deliver tools, spare parts, extra materials, and similar items to location designated by Owner. Label with manufacturer's name and model number where applicable.
  6. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
  7. Terminate and remove temporary facilities from Project site, along with mockups, construction tools, and similar elements.
  8. Advise Owner of changeover in utilities.
  9. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- B. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Landscape Architect/Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Landscape Architect/Engineer will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Landscape Architect/Engineer, that must be completed or corrected before certificate will be issued.
1. Reinspection: Request reinspection when the work identified in previous inspections as incomplete is completed or corrected.
  2. Results of completed inspection will form the basis of requirements for Final Completion.
- 1.3 FINAL COMPLETION
- A. Preliminary Procedures: Before requesting final inspection for determining date of Final Completion, complete the following:
1. Submit a final Application for Payment according to Division 1 Section "Payment Procedures."
  2. Submit certified copy of Landscape Architect/Engineer's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Landscape Architect/Engineer. The certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
  3. Submit evidence of final, continuing insurance coverage complying with insurance requirements.
  4. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems.
- B. Inspection: Submit a written request for final inspection for acceptance. On receipt of request, Landscape Architect/Engineer will either proceed with inspection or notify Contractor of unfulfilled requirements. Landscape Architect/Engineer

will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

1. Reinspection: Request reinspection when the work identified in previous inspections as incomplete is completed or corrected.

#### 1.4 LIST OF INCOMPLETE ITEMS (PUNCH LIST)

- A. Preparation: Submit three copies of list. Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.
  1. Organize list of spaces in sequential order.
  2. Organize items applying to each space by major element, including categories for ceiling, individual walls, floors, equipment, and building systems.
  3. Include the following information at the top of each page:
    - a. Project name.
    - b. Date.
    - c. Name of Contractor.
    - d. Page number.

#### 1.5 PROJECT RECORD DOCUMENTS

- A. General: Do not use Project Record Documents for construction purposes. Protect Project Record Documents from deterioration and loss. Provide access to Project Record Documents for Landscape Architect/Engineer's reference during normal working hours.
- B. Record Drawings: Maintain and submit one set of blue- or black-line white prints of Contract Drawings and Shop Drawings.
  1. Mark 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 Record Prints.
    - a. Give particular attention to information on concealed elements that cannot be readily identified and recorded later.
    - b. Accurately record information in an understandable drawing technique.
    - c. Record data as soon as possible after obtaining it. Record and check the markup before enclosing concealed installations.
    - d. 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.
  2. Mark record sets with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the work at the same location.

3. Mark important additional information that was either shown schematically or omitted from original Drawings.
  4. Note Construction Change Directive numbers, Change Order numbers, alternate numbers, and similar identification where applicable.
  5. Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location. Organize into manageable sets; bind each set with durable paper cover sheets. Include identification on cover sheets.
- C. 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.
1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
  2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
- D. Miscellaneous Record Submittals: Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the work. Bind or file miscellaneous records and identify each, ready for continued use and reference.
- 1.6 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.

## PART 2 - PRODUCTS

### 2.1 MATERIALS

- A. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

## PART 3 - EXECUTION

### 3.1 DEMONSTRATION AND TRAINING

- A. Instruction: Instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
1. Provide instructors experienced in operation and maintenance procedures.
  2. Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at the start of each season.
  3. Schedule training with Owner, through Landscape Architect/Engineer, with at least ten business days' advance notice.
  4. Coordinate instructors, including providing notification of dates, times, length of instruction, and course content.
- B. Program Structure: Develop an instruction program that includes individual training modules for each system and equipment not part of a system, as required by individual Specification Sections. For each training module, develop a learning objective and teaching outline. Include instruction for the following:
1. System design and operational philosophy.
  2. Review of documentation.
  3. Operations.
  4. Adjustments.
  5. Troubleshooting.
  6. Maintenance.
  7. Repair.

### 3.2 FINAL CLEANING

- A. General: Provide final cleaning. Conduct cleaning and waste-removal operations to comply with



local laws and ordinances and Federal and local environmental and antipollution regulations.

- B. **Cleaning:** Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a portion of Project:
    - a. Clean Project site, yard, and grounds, in areas disturbed by construction activities, including landscape development areas, of rubbish, waste material, litter, and other foreign substances.
    - b. Sweep paved areas broom clean. Remove petrochemical spills, stains, and other foreign deposits
    - c. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
    - d. Remove tools, construction equipment, machinery, and surplus material from Project site.
    - e. Remove snow and ice to provide safe access to building.
    - f. Clean exposed exterior finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
    - g. Remove labels that are not permanent.
    - h. Touch up and otherwise repair and restore marred, exposed finishes and surfaces. Replace finishes and surfaces that cannot be satisfactorily repaired or restored or that already show evidence of repair or restoration.
      - 1) Do not paint over "UL" and similar labels, including mechanical and electrical nameplates.
    - i. Replace parts subject to unusual operating conditions.
    - j. Clean light fixtures, lamps, globes, and reflectors to function with full efficiency. Replace burned-out bulbs, and those noticeably dimmed by hours of use, and defective and noisy starters in fluorescent and mercury vapor fixtures to comply with requirements for new fixtures.
    - k. Leave Project clean and ready for occupancy.
- C. Comply with safety standards for cleaning. Do not burn waste materials. Do not bury debris or excess materials on Owner's property. Do not discharge volatile, harmful, or dangerous materials into drainage systems or wetlands. Remove waste materials from Project site and dispose of lawfully.

END OF SECTION 01 77 00

## **CONCRETE FORMWORK - 031000**

### **PART 1 – GENERAL**

#### **1.1 REQUIREMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- B. All applicable portions of Division 1 - General Requirements are to be considered as included with this section.
- C. All Federal, Local and/or State Codes and Ordinances shall govern when their requirements are in excess hereof.
- D. RIDOT Standard Specifications for Road and Bridge Construction (Bluebook)

#### **1.2 DESCRIPTION**

- A. Provide all materials, labor, equipment, service, scaffolding, etc., necessary and incidental to the completion of all Formwork as indicated on drawings and as specified herein.
- B. Work included consists of but is not limited to the following formwork:
  - 1. Concrete footings and foundations.
  - 2. Equipment pads and curbs.
  - 3. Exterior sidewalk slabs, aprons, ramps, curbs, etc.
- C. Setting of miscellaneous rough hardware, frames, angles, bolts, etc. Those items embedded in flat work concrete, not requiring formwork, shall be set by Concrete Contractor.

#### **1.3 FORMING REQUIREMENTS**

- A. Forms shall be used, wherever necessary to confine the concrete and shape it to the required dimensions. Forms shall have sufficient strength to withstand the pressure resulting from placement and vibration of the concrete and shall have sufficient rigidity to maintain specified tolerances.
- B. Provide all forms as required to form poured in place curbs, sidewalks, pavements, exterior slabs, ramps, aprons, footings, abutments, etc.

#### **1.4 QUALITY ASSURANCE**

- A. The contractor shall be required to have available at all time, for reference, the latest editions of the following regulations, standards, etc., which are hereby included in and made a part of these specifications.
  - 1. Recommended Practice for Concrete Formwork ACI 347.
  - 2. Specifications for Structural Concrete for Buildings ACI 301.
  - 3. Building Code Requirements for Reinforced Concrete ACI 318.
- B. The design, engineering and construction of all formwork shall be the responsibility of the Formwork Subcontractor (if subcontractor is used). Formwork design, allowable loads, lateral pressure and stresses

shall be in accordance with Recommended Practice for Concrete Formwork ACI 347 and for wind loads and other applicable requirements of the controlling local building code.

1. Tolerances for formed concrete shall not exceed ACI standards.
2. This subcontractor shall maintain sufficient control points and benchmarks to establish locations of the construction and to maintain specified tolerances.

#### **1.5 JOB CONDITIONS**

- A. Make provisions to coordinate with and provide access to Mechanical and Electrical Contractor for the installation of required pipe sleeves, conduit, etc.
- B. Provide ample notice to all trades and subcontractors to facilitate installation of all items embedded in formed concrete.

### **PART 2 – PRODUCTS**

#### **2.1 MATERIALS**

- A. Steel forms or form liners shall be standard commercially available prefabricated steel forms.
- B. Fiberglass forms shall be standard quality.
- C. Plywood forms shall be B-B ply-form, Class I or Class II, 5/8" minimum thickness, edge sealer. No loose knots, holes, or cracks allowed for exposed concrete.
- D. Boards, sheathing and form lumber shall be No. 3, common or better, 3/4" minimum thickness.
- E. Framing lumber shall be standard or better.
- F. Form accessories embedded in concrete shall be commercially manufactured type. Non-fabricated wire ties are not permitted.

#### **2.2 CONSTRUCTION**

- A. All forms used for exposed concrete work shall be new plywood forms. Reused plywood forms, fiberglass forms and standard steel forms may be used for all concealed concrete work, provided that the reused forms are cleaned and re-oiled prior to reinstallation.
- B. All exterior corners and edges of exposed concrete shall be chamfered or bull-nosed.

### **PART 3 - EXECUTION**

#### **3.1 INSTALLATION**

- A. Rigidly support and substantially construct forms. Forms shall be erected plumb, straight, and true to line, shape and dimensions and in precise position to form the lines and designs indicated. Forms shall be suitable for removal without prying against the concrete. Make forms tight, without cracks or holes and prevent any leakage of mortar or loss of fine particles from the concrete. Knots that have loosened, leaving holes, holes that are not used and cracks that have opened up shall be covered with sheet metal for unexposed concrete. No loose knots, holes or cracks allowed for exposed concrete.
- B. Set all miscellaneous rough hardware, etc. required to be cast-in formed concrete.

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1. All items shall be firmly supported, in true alignment and plane and in accordance with approved erection and shop drawings.
- C. Forms for exterior concrete sidewalks, slabs, pads, aprons, etc., shall be set directly in contact with prepared subgrade or base which shall be compacted for a sufficient distance outside the area of the pavement to support the form.
  1. Forms shall be securely staked, braced and tamped into position. Top surface of form shall be set within a tolerance of 1/8" in ten feet.
- D. Surfaces of forms coming in contact with newly placed concrete shall be coated with an approved non-staining form oil, a commercial form release agent or a non-absorptive form liner to prevent moisture penetration of the form and to prevent bond with the concrete.
  1. Do not permit coating to puddle or come in contact with reinforcing steel and hardened concrete at construction joints.

**3.2 FORM REMOVAL**

- A. Formwork may be removed as soon as the concrete has hardened sufficiently to resist damage from removal operations and developed sufficient strength to sustain its own weight and any superimposed loads.

**3.3 ADJUST AND CLEAN**

- A. After completion of all formwork this subcontractor shall remove all debris from site.

END OF SECTION 03 10 00

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## REINFORCEMENT – 032000

### PART 1 – GENERAL

#### 1.1 REQUIREMENTS

- A. All applicable portions of Division 1 - General Requirements are to be considered as included with this section.
- B. All Federal, Local and/or State Codes and Ordinances shall govern when their requirements are in excess hereof.

#### 1.2 DESCRIPTION

- A. Provide all materials, labor, equipment, service, scaffolding, etc., necessary and incidental to the supply and placing of all Reinforcement as indicated on the drawings and as specified herein.
- B. Work included consists of but is not limited to the following:
  - 1. Reinforcement and dowels for all concrete footings, foundations, piers, slabs, pads, curbs, etc.
  - 2. Welded wire fabric for all floor slabs and all exterior sidewalks, slabs, loading docks, platforms, aprons, ramps, curbs etc. as shown on the Contract Plans.
  - 3. Dowels for masonry walls.
  - 4. Reinforcement for masonry lintels, walls and bond beams.

#### 1.3 QUALITY ASSURANCE

- A. The contractor shall be required to have available at all time, for reference, the latest editions of the following regulations, standards, etc., which are hereby included in and made a part of these specifications.
  - 1. Specifications for Structural Concrete ACI 301.
  - 2. Building Code Requirements for Reinforced Concrete ACI 318.
  - 3. Manual of Standard Practice of the Concrete Reinforcing Steel Institute.
  - 4. Manual of Standard Practice for Detailing Reinforced Concrete Structures ACI 315.
  - 5. Building Design Handbook of the Wire Reinforcement Institute.
- B. A certified copy of the mill test on each heat of reinforcing steel, in accordance with CRSI "Manual of Standard Practice", shall be provided upon request of Owner.
- C. All materials shall conform to specified ASTM standards.

#### 1.4 SUBMITTALS

- A. Submit shop drawings for all reinforcing steel fabrication and placement for approval. Reinforcing steel shop drawings shall be prepared by an experienced reinforcing detailer for fabrication, bending, and placement of concrete reinforcement. Fabrication, placement and shop drawings shall comply with ACI 315 "Manual of Standard Practice for Detailing Reinforced Concrete Structures" showing bar schedules, stirrup spacing, diagrams of bent bars, arrangement of concrete reinforcement. Reproductions of Contract Drawings shall not be permitted.

#### 1.5 PRODUCT DELIVERY AND STORAGE

- A. Reinforcing bars shipped from the mill shall be properly separated and tagged with manufacturer's heat or test number.
- B. All reinforcing bars shall be marked, in the surface of the bar, with designation indicating the point of origin, size, type of steel and minimum yield.
- C. Reinforcing bars shall be shipped to the site and stored in such a manner as to prevent injurious defects, protection from excessive rust, and to maintain a clean finish.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Steel reinforcing bars shall conform to "Specifications for Deformed Billet - Steel Bars for Concrete Reinforcement", ASTM A-615, Grade Number 60, having a minimum yield strength of 60,000 p.s.i.
- B. Tie wire shall be black annealed wire, 16-gauge minimum.
- C. Bar supports shall conform to the "Bar Support Specifications" contained in "Manual of Standard Practice" as published by CRSI. Bar supports and accessories within 1/2" of surface of concrete exposed to weather shall be non-corrosive.
- D. Welded Wire Fabric shall be smooth wire fabric conforming to ASTM A-82 and A-185. Welded intersections shall be W1.4 x W1.4.
- E. Epoxy Repair Coating: Liquid, two-part, epoxy repair coating, compatible with epoxy coating on reinforcement.
- F. All Steel is to be epoxy coated in accordance with applicable sections of ASTM D3963.

### **2.2 FABRICATION**

- A. Fabricate reinforcing bars of size and length indicated. Accurately bend or form to the shapes indicated by methods that will not injure the materials. Heating of reinforcement for bending will not be allowed.
- B. Fabrication and placing tolerances of reinforcing bars and welded wire fabric shall conform to CRSI "Manual of Standard Practice" and ACI 318 Building Code Requirements for Reinforced Concrete for Buildings.

## **PART 3 - EXECUTION**

### **3.1 INSTALLATION**

- A. Place reinforcing in accordance with the approved shop drawings. Provide copies of shop drawings bearing the engineer's approval stamp for use in the field.
- B. Accurately place reinforcement and securely tie in precise position, using at least 16-gauge annealed steel wire at points where bars cross, and in such a way as to hold them against displacement during the placing of concrete. Comply with the Concrete Reinforcing Steel Institute's recommended practice for "Placing Reinforcing Bars", for details and methods of reinforcement placement and supports, and as herein specified.

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- C. Reinforcing bars shall be free from mud, oil, form release compounds or any other non-metallic coatings that adversely affect bonding properties. Rust and mill scale are permitted provided ASTM minimum standards are maintained.
- D. Exercise particular care in placing and securing of reinforcement to maintain the proper distance and clearance between parallel bars and between bars and the forms, or neat excavations. Provide metal spreaders and spacers to maintain vertical steel centering, and to hold horizontal steel in position. Support steel at proper height with chairs, transverse steel bars, with hangers, or other manner as necessary.
- E. Splicing of reinforcement shall be detailed per Chapter 12 of A.C.I. 318-89 unless otherwise noted on drawings.
- F. Place, straighten, and cut welded wire fabric to required size. Touch up cut ends with epoxy-coating. Lap and support fabric in accordance with ACI, and CRSI requirements. Avoid splices in areas of minimum stress.
  - 1. Place reinforcement to obtain at least minimum coverages for concrete protection. Arrange space and securely tie bars and bar supports to hold reinforcement in position during concrete placement operation. Set wire ties so ends are directed into concrete, not toward exposed concrete surfaces.
  - 2. Install welded wire fabric in longest lengths practicable. Lap adjoining pieces at least one full mesh and lace splices with wire. Offset end laps in adjacent widths to prevent continuous laps in either direction.

**3.2 ADJUST AND CLEAN**

- A. Upon completion of work this subcontractor shall remove all debris from site.

**3.3 FIELD QUALITY CONTROL**

- A. All reinforcing steel installation shall be reviewed and accepted by Owner's Project Representative prior to placing concrete. The contractor shall notify the Owner's Representative in writing 48 hours before scheduling the placing of any concrete to allow inspector to review rebar installation. See also Section 32 13 13.

END OF SECTION 03 20 00

**COMMON WORK RESULTS FOR ELECTRICAL - 260500**

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
  - 1. Electrical equipment coordination and installation.
  - 2. Sleeves for raceways and cables.
  - 3. Sleeve seals.
  - 4. Grout.
  - 5. Common electrical installation requirements.

1.3 DEFINITIONS

- A. EPDM: Ethylene-propylene-diene terpolymer rubber.
- B. NBR: Acrylonitrile-butadiene rubber.

1.4 SUBMITTALS

- A. Product Data: For sleeve seals.

1.5 COORDINATION

- A. Coordinate arrangement, mounting, and support of electrical equipment:
  - 1. To allow maximum possible headroom unless specific mounting heights that reduce headroom are indicated.
  - 2. To provide for ease of disconnecting the equipment with minimum interference to other installations.
  - 3. To allow right of way for piping and conduit installed at required slope.
  - 4. So connecting raceways, cables, wireways, cable trays, and busways will be clear of obstructions and of the working and access space of other equipment.



- B. Coordinate installation of required supporting devices and set sleeves in cast-in-place concrete, masonry walls, and other structural components as they are constructed.
- C. Coordinate location of access panels and doors for electrical items that are behind finished surfaces or otherwise concealed. Access doors and panels are specified in Division 08 Section "Access Doors and Frames."
- D. Coordinate sleeve selection and application with selection and application of firestopping specified in Division 07 Section "Penetration Firestopping."

## PART 2 - PRODUCTS

### 2.1 SLEEVES FOR RACEWAYS AND CABLES

- A. Steel Pipe Sleeves: ASTM A 53/A 53M, Type E, Grade B, Schedule 40, galvanized steel, plain ends.
- B. Cast-Iron Pipe Sleeves: Cast or fabricated "wall pipe," equivalent to ductile-iron pressure pipe, with plain ends and integral waterstop, unless otherwise indicated.
- C. Sleeves for Rectangular Openings: Galvanized sheet steel.
  - 1. Minimum Metal Thickness:
    - a. For sleeve cross-section rectangle perimeter less than 50 inches and no side more than 16 inches, thickness shall be 0.052 inch.
    - b. For sleeve cross-section rectangle perimeter equal to, or more than, 50 inches and 1 or more sides equal to, or more than, 16 inches, thickness shall be 0.138 inch.

### 2.2 SLEEVE SEALS

- A. Description: Modular sealing device, designed for field assembly, to fill annular space between sleeve and raceway or cable.
  - 1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - 2. Basis-of-Design Product: Subject to compliance with requirements, provide product indicated on Drawings or comparable product by one of the following:
    - a. Advance Products & Systems, Inc.
    - b. Calpico, Inc.
    - c. Metraflex Co.
    - d. Pipeline Seal and Insulator, Inc.

3. Sealing Elements: EPDM interlocking links shaped to fit surface of cable or conduit. Include type and number required for material and size of raceway or cable.
4. Pressure Plates: Stainless steel. Include two for each sealing element.
5. Connecting Bolts and Nuts: Stainless steel of length required to secure pressure plates to sealing elements. Include one for each sealing element.

### 2.3 GROUT

- A. Nonmetallic, Shrinkage-Resistant Grout: ASTM C 1107, factory-packaged, nonmetallic aggregate grout, noncorrosive, nonstaining, mixed with water to consistency suitable for application and a 30-minute working time.

## PART 3 - EXECUTION

### 3.1 COMMON REQUIREMENTS FOR ELECTRICAL INSTALLATION

- A. Comply with NECA 1.
- B. Measure indicated mounting heights to bottom of unit for suspended items and to center of unit for wall-mounting items.
- C. Headroom Maintenance: If mounting heights or other location criteria are not indicated, arrange and install components and equipment to provide maximum possible headroom consistent with these requirements.
- D. Equipment: Install to facilitate service, maintenance, and repair or replacement of components of both electrical equipment and other nearby installations. Connect in such a way as to facilitate future disconnecting with minimum interference with other items in the vicinity.
- E. Right of Way: Give to piping systems installed at a required slope.

### 3.2 SLEEVE INSTALLATION FOR ELECTRICAL PENETRATIONS

- A. Electrical penetrations occur when raceways, cables, wireways, cable trays, or busways penetrate concrete slabs, concrete or masonry walls, or fire-rated floor and wall assemblies.
- B. Concrete Slabs and Walls: Install sleeves for penetrations unless core-drilled holes or formed openings are used. Install sleeves during erection of slabs and walls.
- C. Use pipe sleeves unless penetration arrangement requires rectangular sleeved opening.
- D. Fire-Rated Assemblies: Install sleeves for penetrations of fire-rated floor and wall assemblies unless openings compatible with firestop system used are fabricated during construction of floor or wall.
- E. Cut sleeves to length for mounting flush with both surfaces of walls.

- F. Extend sleeves installed in floors 6 inches above finished floor level.
- G. Size pipe sleeves to provide ½” annular clear space between sleeve and raceway or cable, unless indicated otherwise.
- H. Seal space outside of sleeves with grout for penetrations of concrete and masonry
  - 1. Promptly pack grout solidly between sleeve and wall so no voids remain. Tool exposed surfaces smooth; protect grout while curing.
- I. Interior Penetrations of Non-Fire-Rated Walls and Floors: Seal annular space between sleeve and raceway or cable, using joint sealant appropriate for size, depth, and location of joint. Comply with requirements in Division 07 Section "Joint Sealants."
- J. Fire-Rated-Assembly Penetrations: Maintain indicated fire rating of walls, partitions, ceilings, and floors at raceway and cable penetrations. Install sleeves and seal raceway and cable penetration sleeves with firestop materials. Comply with requirements in Division 07 Section "Penetration Firestopping."
- K. Roof-Penetration Sleeves: Seal penetration of individual raceways and cables with flexible boot-type flashing units applied in coordination with roofing work.
- L. Aboveground, Exterior-Wall Penetrations: Seal penetrations using steel pipe sleeves and mechanical sleeve seals. Select sleeve size to allow for 1-inch annular clear space between pipe and sleeve for installing mechanical sleeve seals.
- M. Underground, Exterior-Wall Penetrations: Install cast-iron pipe sleeves. Size sleeves to allow for 1-inch annular clear space between raceway or cable and sleeve for installing mechanical sleeve seals.

### 3.3 SLEEVE-SEAL INSTALLATION

- A. Install to seal exterior wall penetrations.
- B. Use type and number of sealing elements recommended by manufacturer for raceway or cable material and size. Position raceway or cable in center of sleeve. Assemble mechanical sleeve seals and install in annular space between raceway or cable and sleeve. Tighten bolts against pressure plates that cause sealing elements to expand and make watertight seal.

### 3.4 FIRESTOPPING

- A. Apply firestopping to penetrations of fire-rated floor and wall assemblies for electrical installations to restore original fire-resistance rating of assembly. Firestopping materials and installation requirements are specified in Division 07 Section "Penetration Firestopping."

END OF SECTION 260500

**RACEWAY AND BOXES FOR ELECTRICAL SYSTEMS – 260533**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Raceways, fittings, boxes, enclosures, and cabinets for electrical wiring.

**1.2 MATERIALS**

- A. Nonmetallic Wireways: PVC plastic.
- B. Surface Raceways: Nonmetallic, rigid PVC.
- C. Handholes and Boxes for Exterior Underground Wiring Fiberglass, prototype tested for compliance with SCTE 77.
- D. Sleeve Seals: EPDM sealing element.

**1.3 INSTALLATION**

- A. Raceway Applications:
  - 1. Outdoors:
    - a. Exposed: RNC, Type EPC-80-PVC.
    - b. Concealed, Aboveground: RNC, Type EPC-40-PVC.
    - c. Underground: RNC, Type EPC-80-PVC, direct buried.
    - d. Connection to Vibrating Equipment: LFNC.
    - e. Boxes and Enclosures, Aboveground: NEMA Type 3R.
    - f. Underground Handholes and Boxes: SCTE tier 15 structural load rating.

END OF SECTION 26 05 33

**UNDERGROUND DUCTS AND RACEWAYS FOR ELECTRICAL SYSTEMS – 260543**

**PART 1 - GENERAL**

**1.1 SUMMARY**

- A. Conduits, ducts, and duct accessories for direct-buried duct banks.
- B. Handholes and boxes.

**1.2 QUALITY ASSURANCE**

- A. Quality Standard: ANSI C2.

**1.3 COMPONENTS**

- A. Conduit:
  - 1. Rigid steel conduit.
  - 2. Rigid nonmetallic conduit (RNC).
- B. Nonmetallic Ducts:
  - 1. Underground plastic utilities duct, Type EB-20-PVC.
  - 2. Underground plastic utilities duct, Type DB-80-PVC.
- C. Precast concrete handholes and boxes.
- D. Handholes and Boxes Other Than Precast Concrete:
  - 1. Fiberglass handholes and boxes with covers of fiberglass.
  - 2. High-density plastic boxes with covers of plastic.

**1.4 INSTALLATION**

- A. Waterproofing exterior surfaces of handholes.

END OF SECTION 26 05 43

## **TEMPORARY TREE AND PLANT PROTECTION - 310900**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section includes general protection and pruning of existing trees and plants that are affected by execution of the Work, whether temporary or permanent construction.
- B. Related Sections:
  - 1. Section 311000 - "Site Clearing" for removing existing trees and shrubs.
  - 2. Section 329100 - "Planting Soils" for restoration of planted areas.
  - 3. Section 329200 - "Turf and Grasses".
  - 4. Section 329300 - "Plants".

#### **1.3 DEFINITIONS**

- A. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, as noted on the plans, or as determined in the field prior to construction.
- B. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, as noted on the plans, or as determined in the field prior to construction.
- C. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

#### **1.4 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Samples for Verification: For each type of the following:
  - 1. Protection Zone Fencing: Assembled Samples of manufacturer's standard size made from full-size components.
  - 2. Protection Zone Signage: Full-size Samples of each size and text, ready for installation.
- C. Tree Pruning Schedule: Written schedule detailing scope and extent of pruning of trees to remain that interfere with or are affected by construction.
  - 1. Species and size of tree.
  - 2. Location on site plan. Include unique identifier for each.

3. Reason for pruning.
  4. Description of pruning to be performed.
  5. Description of maintenance following pruning.
- D. Qualification Data: For qualified tree service firm.
- E. Certification: From tree service, certifying that trees indicated to remain have been protected during construction according to recognized standards and that trees were promptly and properly treated and repaired when damaged.
- F. Maintenance Recommendations: From tree service, for care and protection of trees affected by construction during and after completing the Work.
- G. Existing Conditions: Documentation of existing trees and plantings indicated to remain, which establishes preconstruction conditions that might be misconstrued as damage caused by construction activities.
1. Use sufficiently detailed photographs or videotape.
  2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.

#### **1.5 QUALITY ASSURANCE**

- A. Tree Service Qualifications: Licensed tree service in jurisdiction where Project is located.
- B. Tree Service Firm Qualifications: An experienced tree service firm that has successfully completed temporary tree and plant protection work similar to that required for this Project and that will assign an experienced, qualified tree service to Project site during execution of the Work.
- C. Preinstallation Conference: Conduct conference at Project site.
1. Review methods and procedures related to temporary tree and plant protection including, but not limited to, the following:
    - a. Construction schedule. Verify availability of materials, personnel, and equipment needed to make progress and avoid delays.
    - b. Enforcing requirements for protection zones.
    - c. Tree service 's responsibilities.
    - d. Field quality control.

#### **1.6 PROJECT CONDITIONS**

- A. The following practices are prohibited within protection zones:
1. Storage of construction materials, debris, excavated material, or any other ancillary materials.
  2. Parking vehicles or equipment.
  3. Foot traffic.
  4. Erection of sheds or structures.
  5. Impoundment of water.
  6. Excavation or other digging unless otherwise indicated.
  7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- B. Do not direct vehicle or equipment exhaust toward protection zones.

- C. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones, as well as newly installed plant materials and mulch.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Planting Soil: Refer to Division 32 section "Planting Soils".
- B. Protection-Zone Fencing: Fencing fixed in position and meeting the following requirements. Previously used materials may be used when approved by Engineer.
  - 1. Plastic Protection-Zone Fencing: Plastic construction fencing constructed of high-density extruded and stretched polyethylene fabric with 2-inch maximum opening in pattern and weighing a minimum of 0.4 lb/ft; remaining flexible from minus 60 to plus 200 deg F; inert to most chemicals and acids; minimum tensile yield strength of 2000 psi and ultimate tensile strength of 2680 psi; secured with plastic bands or galvanized-steel or stainless-steel wire ties; and supported by tubular or T-shape galvanized-steel posts spaced not more than 8 feet apart.
    - a. Height: 4 feet.
    - b. Color: High-visibility orange, nonfading.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Erosion and Sedimentation Control: Examine the site to verify that temporary erosion- and sedimentation-control measures are in place. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.
- B. For the record, prepare written report, endorsed by tree service, listing conditions detrimental to tree and plant protection.

### **3.2 PREPARATION**

- A. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated. Flag each tree trunk at 54 inches above the ground.
- B. Protect tree root systems from damage caused by runoff or spillage of noxious materials while mixing, placing, or storing construction materials. Protect root systems from ponding, eroding, or excessive wetting caused by dewatering operations.

### **3.3 TREE- AND PLANT-PROTECTION ZONES**

- A. Protection-Zone Fencing: Install protection-zone fencing along edges of protection zones before materials or equipment are brought on the site and construction operations begin in a manner that will prevent people and animals from easily entering protected area except by entrance gates. Construct fencing so as



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not to obstruct safe passage or visibility at vehicle intersections where fencing is located adjacent to pedestrian walkways or in close proximity to street intersections, drives, or other vehicular circulation.

1. Posts: Set or drive posts into ground one-third the total height of the fence without concrete footings at a distance as noted on plans. Where a post is located on existing paving or concrete to remain, provide appropriate means of post support acceptable to Engineer.
- B. Maintain protection zones free of weeds and trash.
- C. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Engineer.
- D. Maintain protection-zone fencing and signage in good condition as acceptable to Engineer and remove when construction operations are complete and equipment has been removed from the site.
1. Do not remove protection-zone fencing, even temporarily, to allow deliveries or equipment access through the protection zone.
  2. Temporary access is permitted subject to preapproval in writing by tree service if a root buffer effective against soil compaction is constructed as directed by tree service. Maintain root buffer so long as access is permitted.

### **3.4 EXCAVATION**

- A. General: Excavate at edge of protection zones and for trenches indicated within protection zones according to requirements in Division 31 Section "Earth Moving."
- B. Trenching near Trees: Where utility trenches are required within protection zones, hand excavate under or around tree roots or tunnel under the roots by drilling, auger boring, or pipe jacking. Do not cut main lateral tree roots or taproots; cut only smaller roots that interfere with installation of utilities. Cut roots as required for root pruning.
- C. Redirect roots in backfill areas where possible. If encountering large, main lateral roots, expose roots beyond excavation limits as required to bend and redirect them without breaking. If encountered immediately adjacent to location of new construction and redirection is not practical, cut roots approximately 3 inches back from new construction and as required for root pruning.
- D. Do not allow exposed roots to dry out before placing permanent backfill. Provide temporary earth cover or pack with peat moss and wrap with burlap. Water and maintain in a moist condition. Temporarily support and protect roots from damage until they are permanently relocated and covered with soil.

### **3.5 ROOT PRUNING**

- A. Prune roots that are affected by temporary and permanent construction. Prune roots as follows:
1. Cut roots manually by digging a trench and cutting exposed roots with sharp pruning instruments; do not break, tear, chop, or slant the cuts. Do not use a backhoe or other equipment that rips, tears, or pulls roots.
  2. Cut Ends: Coat cut ends of roots more than 1-1/2 inches in diameter with an emulsified asphalt or other coating formulated for use on damaged plant tissues and that is acceptable to tree service.
  3. Temporarily support and protect roots from damage until they are permanently redirected and covered with soil.
  4. Cover exposed roots with burlap and water regularly.
  5. Backfill as soon as possible according to requirements in Division 31 Section "Earth Moving."

- B. Root Pruning at Edge of Protection Zone: Prune roots flush with the edge of the protection zone, by cleanly cutting all roots to the depth of the required excavation.
- C. Root Pruning within Protection Zone: Clear and excavate by hand to the depth of the required excavation to minimize damage to root systems. Use narrow-tine spading forks, comb soil to expose roots, and cleanly cut roots as close to excavation as possible.

### **3.6 CROWN PRUNING**

- A. Prune branches that are affected by temporary and permanent construction only if approved in writing by Owner or Engineer. Prune branches as follows:
  - 1. Prune trees to remain to compensate for root loss caused by damaging or cutting root system. Provide subsequent maintenance during Contract period as recommended by tree service. .
  - 2. Pruning Standards: Prune trees according to ANSI A300 (Part 1)
  - 3. Cut branches with sharp pruning instruments; do not break or chop.
  - 4. Do not apply pruning paint to wounds.
- B. Chip removed branches and dispose of off-site.

### **3.7 REGRADING**

- A. Lowering Grade: Where new finish grade is indicated below existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- B. Lowering Grade within Protection Zone: Where new finish grade is indicated below existing grade around trees, slope grade away from trees as recommended by tree service unless otherwise indicated.
  - 1. Root Pruning: Prune tree roots exposed by lowering the grade. Do not cut main lateral roots or taproots; cut only smaller roots. Cut roots as required for root pruning.
- C. Raising Grade: Where new finish grade is indicated above existing grade around trees, slope grade beyond the protection zone. Maintain existing grades within the protection zone.
- D. Minor Fill within Protection Zone: Where existing grade is 2 inches or less below elevation of finish grade, fill with planting soil. Place planting soil in a single un-compacted layer and hand grade to required finish elevations.

### **3.8 FIELD QUALITY CONTROL**

- A. Inspections: Engage a qualified tree service to direct plant-protection measures in the vicinity of trees, shrubs, and other vegetation indicated to remain and to prepare inspection reports.

### **3.9 REPAIR AND REPLACEMENT**

- A. General: Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Engineer.
  - 1. Submit details of proposed root cutting and tree and shrub repairs.
  - 2. Have tree service perform the root cutting, branch pruning, and damage repair of trees and shrubs.
  - 3. Treat damaged trunks, limbs, and roots according to tree service's written instructions.

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4. Perform repairs within 24 hours.
  5. Replace vegetation that cannot be repaired and restored to full-growth status, as determined by Engineer.
- B. Soil Aeration: Where directed by Engineer, aerate surface soil compacted during construction. Aerate 10 feet beyond drip line and no closer than 36 inches to tree trunk. Drill 2-inch diameter holes a minimum of 12 inches deep at 24 inches o.c. Backfill holes with an equal mix of auger blended soil and sand.

**3.10 DISPOSAL OF SURPLUS AND WASTE MATERIALS**

- A. Disposal: Remove excess excavated material, displaced trees, trash and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 09 00

## **SITE CLEARING - 311000**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section Includes:
  - 1. Protecting existing vegetation to remain.
  - 2. Removing existing vegetation.
  - 3. Clearing and grubbing.
  - 4. Stripping and stockpiling topsoil.
  - 5. Removing above- and below-grade site improvements.
  - 6. Disconnecting, capping or sealing, and removing site utilities.
  - 7. Temporary erosion- and sedimentation-control measures.

#### **1.3 DEFINITIONS**

- A. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- B. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.
- C. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow.
- D. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other nonsoil materials.
- E. Plant-Protection Zone: Area surrounding individual trees, groups of trees, shrubs, or other vegetation to be protected during construction, and indicated on Drawings.
- F. Tree-Protection Zone: Area surrounding individual trees or groups of trees to be protected during construction, and indicated on Drawings.
- G. Vegetation: Trees, shrubs, groundcovers, grass, and other plants.

**1.4 MATERIAL OWNERSHIP**

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

**1.5 SUBMITTALS**

- A. Existing Conditions: Documentation of existing trees and plantings, adjoining construction, and site improvements that establishes preconstruction conditions that might be misconstrued as damage caused by site clearing.
  - 1. Use sufficiently detailed photographs or videotape.
  - 2. Include plans and notations to indicate specific wounds and damage conditions of each tree or other plants designated to remain.
- B. Record Drawings: Identifying and accurately showing locations of capped utilities and other subsurface structural, electrical, and mechanical conditions.

**1.6 QUALITY ASSURANCE**

- A. Pre-installation Conference: Conduct conference at Project site.

**1.7 PROJECT CONDITIONS**

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during site-clearing operations.
  - 1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
  - 2. Provide alternate routes around closed or obstructed traffic ways if required by Owner or authorities having jurisdiction.
- B. Improvements on Adjoining Property: Authority for performing site clearing indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
  - 1. Do not proceed with work on adjoining property until directed by Engineer.
- C. Salvable Improvements: Carefully remove items indicated to be salvaged and store on Owner's premises where indicated.
- D. Utility Locator Service: Notify "Digsafe" for area where Project is located before site clearing.
- E. Do not commence site clearing operations until temporary erosion- and sedimentation-control and plant-protection measures are in place.
- F. The following practices are prohibited within protection zones:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Parking vehicles or equipment.
  - 3. Foot traffic.
  - 4. Erection of sheds or structures.

5. Impoundment of water.
  6. Excavation or other digging unless otherwise indicated.
  7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- G. Do not direct vehicle or equipment exhaust towards protection zones.
- H. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.
- I. Soil Stripping, Handling, and Stockpiling: Perform only when the topsoil is dry or slightly moist.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Satisfactory Soil Material: Requirements for satisfactory soil material are specified in Division 31 Section "Earth Moving."
1. Obtain approved borrow soil material off-site when satisfactory soil material is not available on-site.
- B. Antirust Coating: Fast-curing, lead- and chromate-free, self-curing, universal modified-alkyd primer complying with MPI #79, Alkyd Anticorrosive Metal Primer.
1. Use coating with a VOC content of 3.5 lb/gal. or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Protect and maintain benchmarks and survey control points from disturbance during construction.
- B. Locate and clearly identify trees, shrubs, and other vegetation to remain or to be relocated. Flag each tree trunk at 54 inches (1372 mm) above the ground.
- C. Protect existing site improvements to remain from damage during construction.
1. Restore damaged improvements to their original condition, as acceptable to Owner.

### **3.2 TEMPORARY EROSION AND SEDIMENTATION CONTROL**

- A. Provide temporary erosion- and sedimentation-control measures to prevent soil erosion and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways, according to erosion- and sedimentation-control Drawings and requirements of authorities having jurisdiction.
- B. Verify that flows of water redirected from construction areas or generated by construction activity do not enter or cross protection zones.

- C. Inspect, maintain, and repair erosion- and sedimentation-control measures during construction until permanent vegetation has been established.
- D. Remove erosion and sedimentation controls and restore and stabilize areas disturbed during removal.

### **3.3 TREE AND PLANT PROTECTION**

- A. General: Protect trees and plants remaining on-site according to requirements in Division 01 Section "Temporary Tree and Plant Protection."
- B. Repair or replace trees, shrubs, and other vegetation indicated to remain or be relocated that are damaged by construction operations, in a manner approved by Engineer.

### **3.4 EXISTING UTILITIES**

- A. Owner will arrange for disconnecting and sealing indicated utilities that serve existing structures before site clearing, when requested by Contractor.
  - 1. Verify that utilities have been disconnected and capped before proceeding with site clearing.
- B. Locate, identify, disconnect, and seal or cap utilities indicated to be removed.
  - 1. Arrange with utility companies to shut off indicated utilities.
  - 2. Owner will arrange to shut off indicated utilities when requested by Contractor.
- C. Locate, identify, and disconnect utilities indicated to be abandoned in place.
- D. Interrupting Existing Utilities: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility services according to requirements indicated:
  - 1. Notify Engineer not less than two (2) days in advance of proposed utility interruptions.
  - 2. Do not proceed with utility interruptions without Engineer's written permission.
- E. Excavate for and remove underground utilities indicated to be removed.

### **3.5 CLEARING AND GRUBBING**

- A. Remove obstructions, trees, shrubs, and other vegetation to permit installation of new construction.
  - 1. Do not remove trees, shrubs, and other vegetation indicated to remain or to be relocated.
  - 2. Remove stumps and remove roots, obstructions, and debris to a depth of 18 inches below exposed subgrade outside the perimeter of the building and parking areas.
  - 3. Use only hand methods for grubbing within protection zones.
  - 4. Chip removed tree branches and dispose of off-site.
- B. Fill depressions caused by clearing and grubbing operations with satisfactory soil material unless further excavation or earthwork is indicated.
  - 1. Place fill material in horizontal layers not exceeding a loose depth of 8 inches, and compact each layer to a density equal to adjacent original ground.

**3.6 TOPSOIL STRIPPING**

- A. Remove sod and grass before stripping topsoil.
- B. Strip topsoil to depth of 12 inches in a manner to prevent intermingling with underlying subsoil or other waste materials.
  - 1. Remove subsoil and non-soil materials from topsoil, including clay lumps, gravel, and other objects more than 2 inches in diameter; trash, debris, weeds, roots, and other waste materials.
- C. Stockpile topsoil away from edge of excavations without intermixing with subsoil. Grade and shape stockpiles to drain surface water. Cover to prevent windblown dust and erosion by water.
  - 1. Limit height of topsoil stockpiles to 72 inches.
  - 2. Do not stockpile topsoil within protection zones.
  - 3. Dispose of surplus topsoil. Surplus topsoil is that which exceeds quantity indicated to be stockpiled or reused.
  - 4. Stockpile surplus topsoil to allow for re-spreading deeper topsoil.

**3.7 SITE IMPROVEMENTS**

- A. Remove existing above- and below-grade improvements as indicated on plans and necessary to facilitate new construction.
- B. Remove slabs, footings, fencing, paving, curbs, gutters, playground equipment, and aggregate base as indicated.
  - 1. Unless existing full-depth joints coincide with line of demolition, neatly saw-cut along line of existing pavement to remain before removing adjacent existing pavement. Saw-cut faces vertically.
  - 2. Paint cut ends of steel reinforcement in concrete to remain with two coats of antirust coating, following coating manufacturer's written instructions. Keep paint off surfaces that will remain exposed.

**3.8 DISPOSAL OF SURPLUS AND WASTE MATERIALS**

- A. Remove surplus soil material, unsuitable topsoil, obstructions, demolished materials, and waste materials including trash and debris, and legally dispose of them off Owner's property.
- B. Separate recyclable materials produced during site clearing from other non-recyclable materials. Store or stockpile without intermixing with other materials and transport them to recycling facilities. Do not interfere with other Project work.

END OF SECTION 31 10 00



**EARTH MOVING - 312000**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- B. Geotechnical Data and design basis report proposed improvements to Oakland Beach Playground and Splashpad prepared by GEI Consultants Dated December 7, 2021.
- C. State of Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, Bluebook 2022 Edition

**1.2 SUMMARY**

- A. Section Includes:
  - 1. Construction stakeout performed by a licensed surveying firm provided by the contractor.
  - 2. Excavation and backfilling to provide access to all work areas.
  - 3. Excavation and stockpiling of materials suitable for reuse at an approved on-site location
  - 4. Excavation and legal off-site disposal of unsuitable or excess materials, including existing fill materials, boulders, excess topsoil, boulders, and overburden soils.
  - 5. Soil excavation, fill, backfill, refill and subgrade preparation as indicated herein and per Contract Drawings or required, using specified materials.
  - 6. Soil structure excavation, placement of bedding and backfilling of utility trenches.
  - 7. Furnishing and placing specified materials required to balance site cuts and fills as close as feasible.
  - 8. Preparation of subgrade for structures, slabs, pavements, and landscaping.
  - 9. Furnishing and installing sheeting, shoring, and bracing for excavations as required by Federal, State and Local laws, regulations, and ordinances.
  - 10. Removal of unsuitable materials from beneath proposed building, utilities, and pavement areas.
  - 11. Furnishing and placing subbase and accessories for roadways, parking lots and sidewalks, and playground equipment as indicated on the site Contract Drawings.
  - 12. Furnishing and placing various gradations of crushed stone and related materials in areas designated on the plan.
  - 13. Removal of rock, ledge, boulders, concrete, masonry and rubble as required for foundations and site excavation to the lines and grades indicated on the drawings and as described within this specification and the Geotechnical Report.
  - 14. Rough and fine grading including compaction for existing materials, backfills and refills, and crushed stone.
  - 15. Dewatering, pumping, bailing and control of all groundwater and surface water for all work under this Contract.
  - 16. Dust, erosion, siltation, and environmental controls.
  - 17. Subbase and base course for the sidewalks and pavements shall be furnished, placed and rough graded by the Contractor.
  - 18. Removal and disposal of debris materials and surplus excavated soils.
  - 19. Excavation and backfilling for underground and above ground stormwater system.
  - 20. Excavating and backfilling for retaining walls.
- B. Related Sections:
  - 1. Section 311000- "Site Clearing"
  - 2. Section 312319- "Dewatering"
  - 3. Section 313213- "Subsurface Geotechnical Report"

4. Section 321313- "Concrete"
5. Section 329200- "Turf and Grasses"
6. Section 329100- "Planting Soils"
7. Section 329300- "Plants"

### **1.3 DEFINITIONS**

- A. Backfill: Soil material or controlled low-strength material used to fill an excavation.
1. Initial Backfill: Backfill placed beside and over pipe in a trench, including haunches to support sides of pipe.
  2. Final Backfill: Backfill placed over initial backfill to fill a trench.
- B. Base Course: Aggregate layer placed between the subbase course and finish material.
- C. Bedding Course: Aggregate layer placed over the excavated subgrade in a trench before laying pipe.
- D. Borrow Soil: Satisfactory soil imported from off-site for use as fill or backfill.
- E. Drainage Course: Aggregate layer supporting the slab-on-grade that also minimizes upward capillary flow of pore water.
- F. Excavation: Removal of material encountered above subgrade elevations and to lines and dimensions indicated.
1. Authorized Additional Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions as directed by Engineer. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
  2. Bulk Excavation: Excavation more than 10 feet in width and more than 30 feet in length.
  3. Unauthorized Excavation: Excavation below subgrade elevations or beyond indicated lines and dimensions without direction by Engineer. Unauthorized excavation, as well as remedial work directed by Engineer, shall be without additional compensation.
- G. Fill: Soil materials used to raise existing grades.
- H. Rock: Rock material in beds, ledges, unstratified masses, conglomerate deposits, and boulders of rock material that exceed 1 cu. yd. for bulk excavation or 3/4 cu. yd. for footing, trench, and pit excavation that cannot be removed by rock excavating equipment equivalent to the following in size and performance ratings, without systematic drilling, ram hammering, ripping, or blasting, when permitted:
1. Excavation of Footings, Trenches, and Pits: Late-model, track-mounted hydraulic excavator; equipped with a 42-inch wide, maximum, short-tip-radius rock bucket; rated at not less than 138-hp flywheel power with bucket-curling force of not less than 28,700 lbf and stick-crowd force of not less than 18,400 lbf with extra-long reach boom; measured according to SAE J-1179.
  2. Bulk Excavation: Late-model, track-mounted loader; rated at not less than 230-hp flywheel power and developing a minimum of 47,992-lbf breakout force with a general-purpose bare bucket; measured according to SAE J-732.
- I. Structures: Buildings, footings, foundations, retaining walls, slabs, tanks, curbs, mechanical and electrical appurtenances, or other man-made stationary features constructed above or below the ground surface.

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- J. Subbase Course: Aggregate layer placed between the subgrade and base course for hot-mix asphalt pavement, or aggregate layer placed between the subgrade and a cement concrete pavement or a cement concrete or hot-mix asphalt walk.
- K. Subgrade: Uppermost surface of an excavation or the top surface of a fill or backfill immediately below subbase, drainage fill, drainage course, or topsoil materials.
- L. Utilities: On-site underground pipes, conduits, ducts, and cables, as well as underground services within buildings.

**1.4 SUBMITTALS**

- A. Product Data: For each type of the following manufactured products required:
  - 1. Geotextiles.
  - 2. Controlled low-strength material, including design mixture.
  - 3. Warning tapes.
  - 4. Cut sheets and sieve analysis for all materials being used on site.
- B. Samples for Verification: For the following products, in sizes indicated below:
  - 1. Geotextile: 12 by 12 inches, if applicable.
  - 2. Warning Tape: 12 inches long; of each color.
- C. Qualification Data: For qualified testing agency.
- D. Material Test Reports: For each on-site and borrow soil material proposed for fill and backfill as follows:
  - 1. Classification according to ASTM D 2487.
  - 2. Laboratory gradation and compaction curve for all materials used on site and according to ASTM D 1557.
- E. Pre-excavation Photographs or Videotape: Show existing conditions of adjoining construction and site improvements, including finish surfaces, that might be misconstrued as damage caused by earth moving operations. Submit before earth moving begins.

**1.5 QUALITY ASSURANCE**

- A. Pre-excavation Conference: Conduct conference at Project site.
- B. Comply with all the requirements of this section and with all applicable local, state and federal regulations having jurisdiction.
- C. An independent testing laboratory, selected and paid by Contractor, shall be retained to perform construction testing on site based on the following:
  - 1. Compaction requirements for all soils shall be in accordance with ASTM maximum dry density as determined by ASTM D-1557.

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2. The in-place soil density shall be determined in accordance with ASTM Standard Method of Test for Density of Soil in Place by Nuclear Methods (shallow depth), Designation D-2922 or by the Sand-Cone Method, Designation D-1556.
3. Building or playground equipment Subgrade Areas, including 5'-0" Outside of Exterior Building Lines: In cut areas, not less than 1 compaction test for every 10,000 sq. ft. In fill areas, same rate of testing for each 12-in. lift, measured loose.
4. Area of Construction exclusive of Building Subgrade Areas: In cut areas, not less than 1 compaction test for every 10,000 sq. ft. In fill areas, same rate of testing for each 12-in lift, measured loose.
5. Pavement base thickness tests – One per 20,000 square feet of surface area.
6. Field density test will be required for each foot of depth of backfill at an average interval of 150 feet along the trenches.
7. If compaction requirements are not complied with at any time during construction process, remove and recompact deficient areas until proper compaction is obtained at no additional expense to Owner.
8. The independent testing laboratory shall prepare test reports with the following minimum information:

Report shall consist of narrative and sketch and include as a minimum:

Date and job project number on each sheet  
Testing Lab name, telephone number, technician name.  
Location of each test on site sketch at location of test.  
Elevation of test.  
Date(s) of compaction.  
Date(s) of testing.  
Lab maximum densities and optimum moisture and field density at each location.  
Outline of all foundation walls.  
Outline of all underground piping and trenching.  
Gradation and moisture density proctor report for all materials used on site.

In the event that test performed fails to meet Specifications, Owner and Contractor shall be notified immediately by the independent testing laboratory.

Costs related to retesting due to failure shall be paid for by the Contractor at no additional expense to Owner. Owner reserves right to employ an independent testing laboratory and to direct testing that is deemed necessary. Contractor shall provide free access to site for testing activities. Costs for sampling, transporting and making all laboratory tests required to obtain characteristics of materials from on-site and off-site sources proposed to be used for fills, refills, surcharge fills and backfills including gradation tests and determination of moisture-density relationships, shall be borne by the Contractor.

#### **1.6 PROJECT CONDITIONS**

- A. Traffic: Minimize interference with adjoining roads, streets, walks, and other adjacent occupied or used facilities during earth moving operations.
  1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction.
  2. Provide alternate routes around closed or obstructed pedestrian and traffic ways if required by Owner or authorities having jurisdiction.

- B. Improvements on Adjoining Property: Authority for performing earth moving indicated on property adjoining Owner's property will be obtained by Owner before award of Contract.
  - 1. Do not proceed with work on adjoining property until directed by Engineer.
- C. Utility Locator Service: Notify "Call Before You Dig" for area where Project is located before beginning earth moving operations.
- D. Do not commence earth moving operations until temporary erosion- and sedimentation-control measures, specified in Division 31 Section "Site Clearing," are in place.
- E. Do not commence earth moving operations until plant-protection measures specified in Division 31 Section "Site Clearing" are in place.
- F. The following practices are prohibited within protection zones:
  - 1. Storage of construction materials, debris, or excavated material.
  - 2. Parking vehicles or equipment.
  - 3. Foot traffic.
  - 4. Erection of sheds or structures.
  - 5. Impoundment of water.
  - 6. Excavation or other digging unless otherwise indicated.
  - 7. Attachment of signs to or wrapping materials around trees or plants unless otherwise indicated.
- G. Do not direct vehicle or equipment exhaust towards protection zones.
- H. Prohibit heat sources, flames, ignition sources, and smoking within or near protection zones.
- I. Do not bring explosives onto site or use in work without prior written permission from the Owner and regulatory agencies, which have jurisdiction. Contractor is solely responsible for handling, storage, and use of explosive materials if their use is permitted. For such use, obtain necessary permits and transmit copies to the Owner. Contractor shall present certificates of insurance, in a form acceptable to the Owner, showing evidence that Contractor's insurance includes coverage for blasting operations, in the amounts required by the Contract for construction before bringing explosives on site.

## **PART 2 - PRODUCTS**

### **2.1 SOIL MATERIALS**

- A. General: Provide borrow soil materials when sufficient satisfactory soil materials are not available from excavations.
- B. Satisfactory Soils: Soil Classification Groups GW, GP, GM, SW, SP, and SM according to ASTM D 2487, or a combination of these groups; free of rock or gravel larger than 3 inches in any dimension, debris, waste, frozen materials, vegetation, and other deleterious matter.
- C. Unsatisfactory Soils: Soil Classification Groups GC, SC, CL, ML, OL, CH, MH, OH, and PT according to ASTM D 2487, or a combination of these groups.
  - 1. Unsatisfactory soils also include satisfactory soils not maintained within 2 percent of optimum moisture content at time of compaction.

- D. Subbase Material: Subbase material gradation “A”, as specified by Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction.
- E. Base Course: Processed aggregate as specified by Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction.
- F. Structural Fill: Hard durable sand and gravel free of clay, organic matter, surface coatings, and other deleterious materials. Soil finer than No. 200 sieve (the fines) shall not be plastic. Structural fill should meet the requirements of Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction.
- G. Crushed Stone: 3/8” size durable crushed rock or durable gravel stone conforming to the requirements of Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction.
- H. Rip Rap: Rip rap conforming to the requirements of Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction.
- I. Pipe Bedding: Pipe bedding and pipe zone material conforming to the requirements of Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction grading “C’.
- J. Trench Backfill: Trench backfill conforming to the requirements of Rhode Island Department of Transportation Standard Specifications for Road and Bridge Construction.

## **2.2 GEOTEXTILES**

- A. Subsurface Drainage Geotextile: Nonwoven needle-punched geotextile, manufactured for subsurface drainage applications, made from polyolefins or polyesters; with elongation greater than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
  - 1. Survivability: Class 2; AASHTO M 288.
  - 2. Grab Tensile Strength: 157 lbf; ASTM D 4632.
  - 3. Sewn Seam Strength: 142 lbf; ASTM D 4632.
  - 4. Tear Strength: 56 lbf; ASTM D 4533.
  - 5. Puncture Strength: 56 lbf; ASTM D 4833.
  - 6. Apparent Opening Size: No. 40 sieve, maximum; ASTM D 4751.
  - 7. Permittivity: 0.5 per second, minimum; ASTM D 4491.
  - 8. UV Stability: 50 percent after 500 hours’ exposure; ASTM D 4355.
- B. Separation Geotextile: Woven geotextile fabric, manufactured for separation applications, made from polyolefins or polyesters; with elongation less than 50 percent; complying with AASHTO M 288 and the following, measured per test methods referenced:
  - 1. Survivability: Class 2; AASHTO M 288.
  - 2. Grab Tensile Strength: 247 lbf; ASTM D 4632.
  - 3. Sewn Seam Strength: 222 lbf; ASTM D 4632.
  - 4. Tear Strength: 90 lbf; ASTM D 4533.
  - 5. Puncture Strength: 90 lbf ASTM D 4833.
  - 6. Apparent Opening Size: No. 60 sieve, maximum; ASTM D 4751.
  - 7. Permittivity: 0.02 per second, minimum; ASTM D 4491.
  - 8. UV Stability: 50 percent after 500 hours’ exposure; ASTM D 4355.

### **2.3 ACCESSORIES**

- A. Detectable Warning Tape: Acid- and alkali-resistant, polyethylene film warning tape manufactured for marking and identifying underground utilities, a minimum of 6 inches wide and 4 mils thick, continuously inscribed with a description of the utility, with metallic core encased in a protective jacket for corrosion protection, detectable by metal detector when tape is buried up to 30 inches deep; colored as follows:
1. Red: Electric.
  2. Yellow: Gas, oil, steam, and dangerous materials.
  3. Orange: Telephone and other communications.
  4. Blue: Water systems.
  5. Green: Sewer systems.

## **PART 3 - EXECUTION**

### **3.1 PREPARATION**

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth moving operations.
- B. Protect and maintain erosion and sedimentation controls during earth moving operations.
- C. Protect subgrades and foundation soils from freezing temperatures and frost. Remove temporary protection before placing subsequent materials.

### **3.2 DEWATERING**

- A. Verify that survey benchmark and intended elevations for the work are as indicated.
- B. Identify and flag known utility locations. Maintain and protect existing utilities to remain and which pass through the work areas.
- C. Prevent surface water and ground water from entering excavations, from ponding on prepared subgrades, and from flooding Project site and surrounding area.
- D. Protect subgrades from softening, undermining, washout, and damage by rain or water accumulation.
1. Reroute surface water runoff away from excavated areas. Do not allow water to accumulate in excavations. Do not use excavated trenches as temporary drainage ditches.

### **3.3 EXCAVATION, GENERAL**

- A. All topsoil, subsoil, unsuitable fill and miscellaneous materials (i.e. structures, foundations, pavements) shall be stripped to their entire depths within the footing bearing zones and below bottom of floor slab base course within building areas if applicable to this contract. Materials suitable for reuse as determined by the Geotechnical Engineer shall be stored in designated locations that will not interfere with building operations. As previously specified, topsoil to be reused shall be free from clay, large stones and debris. All materials not suitable for reuse shall be legally disposed of off-site as specified elsewhere in the Contract Documents.

Topsoil and Subsoil beneath pavements proposed in fills greater than 6 feet in height may remain in place, with the approval of the Geotechnical Engineer.

- B. The Contractor shall excavate all topsoil, unsuitable fill and any other unsuitable materials to firm natural ground below all spread footings and within the area as sloping downward and outward on a one horizontal to one vertical (1H:1V) line to firm natural ground or to five (5) feet beyond structure or building lines if applicable to this Contract, whichever is greater, or as required by the Geotechnical Engineer. Unsuitable material is herein classified as existing fill, topsoil, organic silt, peat, branches, logs, stumps, boulders, cobbles, existing structures (i.e. footings, foundations, floor slabs, pavements, abandoned utilities, etc.) and any trash, (i.e., snow, roots, sod, rubbish or other deleterious or organic matter). Over-excavate bedrock and natural soils below footings as described herein.
- C. The Contractor shall excavate and remove topsoil, subsoil, miscellaneous unsuitable organic fill and any other unsuitable materials to 5-feet below specified finish pavement grades as indicated on the Contract Drawings then proof roll the subgrades in the manner specified below.
- D. Excavated topsoil, unusable boulders, unusable excavated rock and unsuitable materials shall be removed and stockpiled at a designated location or otherwise removed from the project at the Contractor's expense.
- E. Excavated rock consisting of on-site boulders and mechanically broken ledge shall be stockpiled on site for preparation of primary and secondary crushing, as necessary, for reuse at locations on site provided material gradations after any processing, screening and mixing operations meet those outlined herein. Alternatively, all excavated rock should be legally disposed of off-site.

#### **3.4 EXCAVATION FOR STRUCTURES**

- A. All areas within the limits of work shall be excavated or filled with suitable material to the subgrade lines and elevations as shown on the plans and cross sections in accordance with these specifications

The Contractor shall not excavate below top of suitable in-place natural soil subgrades except as described within this specification for spread footing foundation construction and utility installation. Do not perform soil over-excavation for spread footing foundation construction and utility installation without the authorization of the Geotechnical Engineer. The Contractor shall follow a construction procedure which permits visual identification of firm natural ground.

All footing and foundation excavations shall be made to the proper depths with the proper allowance for forms, etc. All excavations shall be approximately level, and clear of loose material. Any debris or vegetable matter or unsuitable soil or material encountered in the excavation shall be removed as directed by the Geotechnical Engineer. All debris, not usable for rough grading below grass areas, excluding slope areas, shall be removed from the excavated material and shall be disposed of off-site.

Surplus material, if any, shall be disposed of off-site in a legal manner at the Contractor's expense.

- B. The Contractor shall follow a construction procedure which permits visual identification of natural subgrade soils.

In the event that groundwater is encountered, the Owner may require that the size of the open excavation be limited to that which can be handled by the Contractor's chosen method of dewatering and allow visual observation of the bottom and placement of all fill in the dry.

- C. If subgrade soils become loose and saturated, the Contractor shall be required to excavate such loose and saturated soils and replace them, at no additional cost to the Owner, with compacted 3/8 inch foundation stone or sand-gravel fill in order to stabilize areas which may become disturbed due to surface runoff, construction disturbances by the Contractor, and subsurface seepage pressure and also to expedite pumping. Particular areas of concern are within new building areas and under all pavement areas.



- D. The Contractor shall be required, if necessary to place 4" underdrains 50 feet on center, two or more feet below grade, in ¾ inch crushed stone and filter fabric on top of the silt or clay natural ground, or, to place a twelve inch (12") to eighteen inch (18") layer of free-draining sand-gravel material over the natural underlying soil to stabilize areas which may become disturbed due to water seepage and to expedite drainage if requested by the Geotechnical Engineer or as indicated on the Contract Drawings.
- E. Prior to placement of the initial layer of fill over the natural ground, proof-rolling of the exposed subgrades, if above the groundwater table, shall be performed as specified herein. This requirement may be waived by the Geotechnical Engineer based on actual conditions encountered.
- F. Protect all subgrade soils. Excavate subgrade soils which become disturbed, and backfill in accordance with specifications at Contractor's expense.
- G. Do not excavate to full depth when freezing temperatures may be expected unless subgrade is protected from freezing, or footings or slabs can be placed immediately after excavation is completed and are protected from freezing.
- H. Maintain safe and stable excavation walls in accordance with OSHA requirements.
- I. Excavate in a manner that will not disturb existing foundations to remain. Plans for excavating near existing remaining foundations shall be submitted to the Geotechnical Engineer for approval prior to beginning such excavation.
- J. Correct unauthorized excavation at no additional cost to the Owner.

### **3.5 EXCAVATION FOR WALKS AND PAVEMENTS**

- A. Excavate surfaces under walks and pavements to indicated lines, cross sections, elevations, and subgrades.

### **3.6 EXCAVATION FOR UTILITY TRENCHES**

- A. Excavate for sewer, water, and drainage piping and other utilities at locations indicated on the Drawings. Dewater trenches to permit work to be performed in dry conditions. Over excavate and remove unsuitable material and replace and compact with foundation stone or material approved by the Geotechnical Engineer.
- B. Cut trenches sufficiently wide to enable installation and inspection of utilities. Cut trenches sufficiently wide to allow compaction of fills with a double-drum, walk-behind vibratory roller. Slope or shore trenches in accordance with OSHA standards.
- C. Support pipe and conduit during placement and compaction of pipe bedding material.
- D. Backfill trenches with pipe zone material according to the specifications contained herein and the Contract Drawings to required contours and elevations.
- E. Place and compact fill materials in accordance with specifications contained hereinafter.
- F. Dispose of unsuitable materials, rock not to be used, etc. in a legal manner offsite.

### **3.7 SUBGRADE INSPECTION**

- A. Notify Engineer when excavations have reached required subgrade.
- B. If Engineer determines that unsatisfactory soil is present, continue excavation and replace with compacted backfill or fill material as directed.

- C. Proof-roll subgrade below the building slabs and pavements with a heavy vibratory roller to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  - 1. Proof-roll existing natural soil subgrade and fill subgrades within building and pavement areas prior to placement of fill in all building and pavement areas or installation of utilities, in two perpendicular directions. Proof-rolling shall be accomplished with a minimum of 8 passes of a vibratory steel drum roller with a minimum static weight of 10,000 pounds. Any soft, weaving or deleterious areas shall be locally excavated and replaced with compacted structural fill. This work shall be performed under the direct observation of the Geotechnical Engineer. The Geotechnical Engineer may elect to waive this work within wet areas, if excessive disturbance is being created.
  - 2. Existing fill materials which may potentially remain in place below pavement areas shall be proof rolled with minimum of 8 passes of a vibratory steel drum roller with a minimum static weight of 10,000 pounds. Loose soils identified during proof-rolling shall be excavated and replaced with compacted structural fill in loose lifts not to exceed 12 inches thick.
  - 3. If the exposed subgrade is wet or otherwise susceptible to disturbance, the Geotechnical Engineer may waive proof-rolling requirements. Proof-roll crushed stone layer below footings and slabs and where fractures in bedrock have been filled with a 5-ton static weight vibratory roller minimum to fill fractures in rock and to provide a uniformly stiff surface to receive footings and slabs.
- D. Authorized additional excavation and replacement material will be paid for according to Contract provisions for changes in the Work.
- E. Reconstruct subgrades damaged by freezing temperatures, frost, rain, accumulated water, or construction activities, as directed by Engineer, without additional compensation.

### **3.8 UNAUTHORIZED EXCAVATION**

- A. Fill unauthorized excavation under foundations or wall footings by extending bottom elevation of concrete foundation or footing to excavation bottom, without altering top elevation. Lean concrete fill, with 28-day compressive strength of 4000 psi, may be used when approved by Engineer.
  - 1. Fill unauthorized excavations under other construction, pipe, or conduit as directed by Engineer.

### **3.9 STORAGE OF SOIL MATERIALS**

- A. Stockpile borrow soil materials and excavated satisfactory soil materials without intermixing. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
  - 1. Stockpile soil materials away from edge of excavations. Do not store within drip line of remaining trees.

### **3.10 BACKFILL**

- A. Place and compact backfill in excavations promptly, but not before completing the following:
  - 1. Construction below finish grade including, where applicable, subdrainage, damp-proofing, waterproofing, and perimeter insulation.
  - 2. Surveying locations of underground utilities for Record Documents.
  - 3. Testing and inspecting underground utilities.
  - 4. Removing concrete formwork.
  - 5. Removing trash and debris.
  - 6. Removing temporary shoring and bracing, and sheeting.
  - 7. Installing permanent or temporary horizontal bracing on horizontally supported walls.

- B. Place backfill on subgrades free of mud, frost, snow, or ice.

**3.11 UTILITY TRENCH BACKFILL**

- A. Place backfill on subgrades free of mud, frost, snow, or ice.
- B. Place and compact bedding course on trench bottoms and where indicated. Shape bedding course to provide continuous support for bells, joints, and barrels of pipes and for joints, fittings, and bodies of conduits.
- C. Trenches under Footings: Backfill trenches excavated under footings and within 18 inches of bottom of footings with concrete to elevation of bottom of footings. Concrete is specified in Division 03 Section "Cast-in-Place Concrete."
- D. Trenches under Roadways: Provide 4-inch thick, concrete-base slab support for piping or conduit less than 18 inches below surface of roadways. After installing and testing, completely encase piping or conduit in a minimum of 4 inches of concrete before backfilling or placing roadway subbase course. Concrete is specified in Division 03 Section "Cast-in-Place Concrete."
- E. Backfill voids with satisfactory soil while removing shoring and bracing.
- F. Place and compact final backfill of satisfactory soil to final subgrade elevation.
- G. Install warning tape directly above utilities, 12 inches below finished grade, except 6 inches below subgrade under pavements and slabs.

**3.12 SOIL FILL**

- A. Plow, scarify, bench, or break up sloped surfaces steeper than 1 vertical to 4 horizontal so fill material will bond with existing material.
- B. Place and compact fill material in layers to required elevations as follows:
  - 1. Under grass and planted areas, use satisfactory soil material.
  - 2. Under walks and pavements, use satisfactory soil material below subgrade.
  - 3. Under steps and ramps, use structural fill.
  - 4. Under building slabs, use structural fill.
  - 5. Under footings and foundations, use structural fill.
- C. Place soil fill on subgrades free of mud, frost, snow, or ice.

**3.13 SOIL MOISTURE CONTROL**

- A. Uniformly moisten or aerate subgrade and each subsequent fill or backfill soil layer before compaction to within 2 percent of optimum moisture content.
  - 1. Do not place backfill or fill soil material on surfaces that are muddy, frozen, or contain frost or ice.
  - 2. Remove and replace, or scarify and air dry, otherwise satisfactory soil material that exceeds optimum moisture content by 2 percent and is too wet to compact to specified dry unit weight.

**3.14      COMPACTION OF SOIL BACKFILLS AND FILLS**

- A. Place backfill and fill soil materials in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches in loose depth for material compacted by hand-operated tampers.
- B. Place backfill and fill soil materials evenly on all sides of structures to required elevations, and uniformly along the full length of each structure.
- C. Compact soil materials to not less than the following percentages of maximum dry unit weight according to ASTM D 1557:
  - 1. Under structures, building slabs, steps, and pavements, scarify and recompact top 12 inches of existing subgrade and each layer of backfill or fill soil material at 95 percent.
  - 2. Under walkways, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 95 percent.
  - 3. Under turf or unpaved areas, scarify and recompact top 6 inches below subgrade and compact each layer of backfill or fill soil material at 90 percent.
  - 4. For utility trenches, compact each layer of initial and final backfill soil material at 95 percent.

**3.15      GRADING**

- A. General: Uniformly grade areas to a smooth surface, free of irregular surface changes. Comply with compaction requirements and grade to cross sections, lines, and elevations indicated.
  - 1. Provide a smooth transition between adjacent existing grades and new grades.
  - 2. Cut out soft spots, fill low spots, and trim high spots to comply with required surface tolerances.
- B. Site Rough Grading: Slope grades to direct water away from buildings and to prevent ponding. Finish subgrades to required elevations within the following tolerances:
  - 1. Turf or Unpaved Areas: Plus or minus 1 inch.
  - 2. Walks: Plus or minus 1/4 inch.
  - 3. Pavements: Plus or minus 1/4 inch.
- C. Grading inside Building Lines: Finish subgrade to a tolerance of 1/2 inch when tested with a 10-foot straightedge.

**3.16      SUBBASE AND BASE COURSES UNDER PAVEMENTS AND WALKS**

- A. Place subbase course and base course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place subbase course and base course under pavements and walks as follows:
  - 1. Place base course material over subbase course under hot-mix asphalt pavement.
  - 2. Shape subbase course and base course to required crown elevations and cross-slope grades.
  - 3. Place subbase course and base course 6 inches or less in compacted thickness in a single layer.
  - 4. Place subbase course and base course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
  - 5. Compact subbase course and base course at optimum moisture content to required grades, lines, cross sections, and thickness to not less than 95 percent of maximum dry unit weight according to ASTM D 1557.

**3.17 DRAINAGE COURSE UNDER CONCRETE SLABS-ON-GRADE**

- A. Place drainage course on subgrades free of mud, frost, snow, or ice.
- B. On prepared subgrade, place and compact drainage course under cast-in-place concrete slabs-on-grade as follows:
  - 1. Install subdrainage geotextile on prepared subgrade according to manufacturer's written instructions, overlapping sides and ends.
  - 2. Place drainage course 6 inches or less in compacted thickness in a single layer.
  - 3. Place drainage course that exceeds 6 inches in compacted thickness in layers of equal thickness, with no compacted layer more than 6 inches thick or less than 3 inches thick.
  - 4. Compact each layer of drainage course to required cross sections and thicknesses to not less than 95 percent of maximum dry unit weight according to ASTM D 698.

**3.18 FIELD QUALITY CONTROL**

- A. Special Inspections: Owner will engage a qualified special inspector to perform the following special inspections:
  - 1. Determine prior to placement of fill that site has been prepared in compliance with requirements.
  - 2. Determine that fill material and maximum lift thickness comply with requirements.
  - 3. Determine, at the required frequency, that in-place density of compacted fill complies with requirements.
- B. Testing Agency: Contractor will engage a qualified geotechnical engineering testing agency to perform tests and inspections.
- C. Allow testing agency to inspect and test subgrades and each fill or backfill layer. Proceed with subsequent earth moving only after test results for previously completed work comply with requirements.
- D. Footing Subgrade: At footing subgrades, at least one test of each soil stratum will be performed to verify design bearing capacities. Subsequent verification and approval of other footing subgrades may be based on a visual comparison of subgrade with tested subgrade when approved by Engineer.
- E. Testing agency will test compaction of soils in place according to ASTM D 1557, ASTM D 2167, ASTM D 2922, and ASTM D 2937, as applicable. Tests will be performed at the following locations and frequencies or as required with the geotechnical report:
  - 1. Paved and Building Slab Areas: At subgrade and at each compacted fill and backfill layer, at least one test for every 10,000 sq. ft. or less of paved area or building slab, but in no case fewer than three tests.
  - 2. Foundation Wall Backfill: At each compacted backfill layer, at least one test for every 150 feet or less of wall length, but no fewer than two tests.
  - 3. Trench Backfill: At each compacted initial and final backfill layer, at least one test for every 150 feet or less of trench length, but no fewer than two tests.
- F. When testing agency reports that subgrades, fills, or backfills have not achieved degree of compaction specified, scarify and moisten or aerate, or remove and replace soil materials to depth required; recompact and retest until specified compaction is obtained.

**3.19 PROTECTION**

- A. Protecting Graded Areas: Protect newly graded areas from traffic, freezing, and erosion. Keep free of trash and debris.
- B. Repair and reestablish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or where they lose compaction due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace soil material to depth as directed by Engineer; reshape and recompact.
- C. Where settling occurs before Project correction period elapses, remove finished surfacing, backfill with additional soil material, compact, and reconstruct surfacing.
  - 1. Restore appearance, quality, and condition of finished surfacing to match adjacent work, and eliminate evidence of restoration to greatest extent possible.

**3.20 DISPOSAL OF SURPLUS AND WASTE MATERIALS**

- A. Remove surplus satisfactory soil and waste materials, including topsoil, unsatisfactory soil, trash, and debris, and legally dispose of them off Owner's property.

END OF SECTION 31 20 00

**DEWATERING- 312319**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

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

**1.2 SUMMARY**

- A. Section includes construction dewatering and includes the following:
1. This section specifies the designing, furnishing, installing, maintaining, operating and removing of a complete temporary dewatering system as required to lower and control water levels, hydrostatic pressures during construction; disposing of pumped water; construction, maintaining, observing and, except where indicated or required to remain in place, removing or filling of dewatering tubing and observation well; and instrumentation for control of the system.
  2. The Contractor shall provide, at his own expense, adequate pumping and drainage facilities to keep the excavate areas sufficiently dry from groundwater and/or surface runoff so as not to adversely affect construction procedures or cause excessive disturbance of underlying natural ground. The drainage of all water resulting from pumping shall be arranged so as not to cause damage to adjacent property. All requirements of local environmental or conservation authorities shall be satisfied with respect to discharge of pumped water.
  3. Dewatering includes lowering the water table and intercepting seepage which would otherwise emerge from the slopes or bottom of the excavation, thereby decreasing the stability of excavated slopes, causing loss of material from beneath the slopes or bottom of the excavation and hauling characteristics of soil, and/or causing rupture or heaving of the bottom of an excavation.
- B. Related Sections:
1. Section 031000 - "Concrete Formwork" for the placement of formwork associated with concrete footings and bridge abutments.
  2. Section 312000 - "Earth Moving" for excavating, backfilling, site grading, and for site utilities.
  3. Section 313213 - "Sub-surface Geotechnical Report" for guidance regarding the use of the borings and geotechnical recommendations associated with this work.

**1.3 PERFORMANCE REQUIREMENTS**

- A. Dewatering Performance: Design, furnish, install, test, operate, monitor, and maintain dewatering system of sufficient scope, size, and capacity to control hydrostatic pressures and to lower, control, remove, and dispose of ground water and permit excavation and construction to proceed on dry, stable subgrades.
1. Delegated Design: Design dewatering system, including comprehensive engineering analysis by a qualified professional engineer, using performance requirements and design criteria indicated.
  2. Continuously monitor and maintain dewatering operations to ensure erosion control, stability of excavations and constructed slopes, that excavation does not flood, and that damage to subgrades and permanent structures is prevented.
  3. Prevent surface water from entering excavations by grading, dikes, or other means.
  4. Accomplish dewatering without damaging existing buildings, structures, and site improvements adjacent to excavation.
  5. Remove dewatering system when no longer required for construction.

**1.4 SUBMITTALS**

- A. Shop Drawings: For dewatering system. Show arrangement, locations, and details of wells and well points; locations of risers, headers, filters, pumps, power units, and discharge lines; and means of discharge, control of sediment, and disposal of water.
  - 1. Include layouts of piezometers and flow-measuring devices for monitoring performance of dewatering system.
  - 2. Include a written plan for dewatering operations including control procedures to be adopted if dewatering problems arise.
- B. Delegated-Design Submittal: For dewatering system indicated to comply with performance requirements and design criteria, including analysis data signed and sealed by the qualified professional engineer licensed in Rhode Island responsible for their preparation.
- C. Qualification Data: For qualified Installer and professional engineer.
- D. Field quality-control reports.
- E. Other Informational Submittals:
  - 1. Photographs: Show existing conditions of adjoining construction and site improvements that might be misconstrued as damage caused by dewatering operations.

**1.5 QUALITY ASSURANCE**

- A. Installer Qualifications: An experienced installer that has specialized in design of dewatering systems and dewatering work.
- B. Regulatory Requirements: Comply with governing EPA notification regulations before beginning dewatering. Comply with hauling and disposal regulations of authorities having jurisdiction.
- C. Pre-installation Conference: Conduct conference at Project site.
  - 1. Review methods and procedures related to dewatering including, but not limited to, the following:
    - a. Inspection and discussion of condition of site to be dewatered including coordination with temporary erosion control measures and temporary controls and protections.
    - b. Geotechnical report.
    - c. Proposed site clearing and excavations.
    - d. Existing utilities and subsurface conditions.
    - e. Coordination for interruption, shutoff, capping, and continuation of utility services.
    - f. Construction schedule. Verify availability of Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
    - g. Testing and monitoring of dewatering system.

**1.6 PROJECT CONDITIONS**

- A. Interruption of Existing Utilities: Do not interrupt any utility serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary utility according to requirements indicated:



1. Notify Landscape Architect/Engineer no fewer than two (2) days in advance of proposed interruption of utility.
  2. Do not proceed with interruption of utility without Landscape Architect/Engineer's written permission.
- B. Project-Site Information: A geotechnical report has been prepared for this Project and is available for information only. The opinions expressed in this report are those of geotechnical engineer and represent interpretations of subsoil conditions, tests, and results of analyses conducted by geotechnical engineer. Owner will not be responsible for interpretations or conclusions drawn from this data.
1. Make additional test borings and conduct other exploratory operations necessary for dewatering.
  2. The geotechnical report is included and referenced elsewhere in the Project Manual.
- C. Survey Work: Engage a qualified land surveyor or professional engineer to survey adjacent existing buildings, structures, and site improvements, establishing exact elevations at fixed points to act as benchmarks. Clearly identify benchmarks and record existing elevations.
1. During dewatering, regularly resurvey benchmarks, maintaining an accurate log of surveyed elevations for comparison with original elevations. Promptly notify Landscape Architect/Engineer if changes in elevations occur or if cracks, sags, or other damage is evident in adjacent construction.

## **PART 2 - EXECUTION**

### **2.1 PREPARATION**

- A. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by dewatering operations.
1. Prevent surface water and subsurface or ground water from entering excavations, from ponding on prepared subgrades, and from flooding site and surrounding area.
  2. Protect subgrades and foundation soils from softening and damage by rain or water accumulation.
- B. Install dewatering system to ensure minimum interference with roads, streets, walks, and other adjacent occupied and used facilities.
1. Do not close or obstruct streets, walks, or other adjacent occupied or used facilities without permission from Owner and authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by authorities having jurisdiction.
- C. Provide temporary grading to facilitate dewatering and control of surface water.
- D. Monitor dewatering systems continuously.
- E. Promptly repair damages to adjacent facilities caused by dewatering.
- F. Protect and maintain temporary erosion and sedimentation controls, which are specified in Section 311000 - "Site Clearing" during dewatering operations.

### **2.2 INSTALLATION**

- A. Install dewatering system utilizing wells, well points, or similar methods complete with pump equipment, standby power and pumps, filter material gradation, valves, appurtenances, water disposal, and surface-water controls.

1. Space well points or wells at intervals required to provide sufficient dewatering.
  2. Use filters or other means to prevent pumping of fine sands or silts from the subsurface.
- B. Before excavating below ground-water level, place system into operation to lower water to specified levels. Operate system continuously until drains, sewers, and structures have been constructed and fill materials have been placed or until dewatering is no longer required.
- C. Provide an adequate system to lower and control ground water to permit excavation, construction of structures, and placement of fill materials on dry subgrades. Install sufficient dewatering equipment to drain water-bearing strata above and below bottom of foundations, drains, sewers, and other excavations.
1. Do not permit open-sump pumping that leads to loss of fines, soil piping, subgrade softening, and slope instability.
- D. Reduce hydrostatic head in water-bearing strata below subgrade elevations of foundations, drains, sewers, and other excavations.
1. Maintain piezometric water level a minimum of 12 inches below surface of excavation.
- E. Dispose of water removed by dewatering in a manner that avoids endangering public health, property, and portions of work under construction or completed. Dispose of water and sediment in a manner that avoids inconvenience to others. Provide sumps, sedimentation tanks, and other flow-control devices as required by authorities having jurisdiction.
- F. Provide standby equipment on site, installed and available for immediate operation, to maintain dewatering on continuous basis if any part of system becomes inadequate or fails. If dewatering requirements are not satisfied due to inadequacy or failure of dewatering system, restore damaged structures and foundation soils at no additional expense to Owner.
1. Remove dewatering system from Project site on completion of dewatering. Plug or fill well holes with sand or cut off and cap wells a minimum of 36 inches below overlying construction.
- G. Damages: Promptly repair damages to adjacent facilities caused by dewatering operations.

### **2.3 FIELD QUALITY CONTROL**

- A. Observation Wells: Provide, take measurements, and maintain at least the minimum number of observation wells or piezometers indicated; additional observation wells may be required by authorities having jurisdiction.
1. Observe and record daily elevation of ground water and piezometric water levels in observation wells.
  2. Repair or replace, within 24 hours, observation wells that become inactive, damaged, or destroyed. In areas where observation wells are not functioning properly, suspend construction activities until reliable observations can be made. Add or remove water from observation-well risers to demonstrate that observation wells are functioning properly.
  3. Fill observation wells, remove piezometers, and fill holes when dewatering is completed.
- B. Provide continual observation to ensure that subsurface soils are not being removed by the dewatering operation.

END OF SECTION 31 23 19

## **SUBSURFACE GEOTECHNICAL REPORT - 313213**

### **PART 1 – GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Division 2 - Site Construction.

#### **1.2 DESCRIPTION OF WORK**

- A. Boring Logs:

- 1. The Boring Logs for the project site have been prepared and are available in the project manual.

- B. Geotechnical Report(s):

- 1. A Geotechnical Report for the project site has been prepared and is available in the project manual.
  - 2. The Contractor must interpret this report according to his own judgment and acknowledges that he is not relying upon the data as accurately describing the subsurface conditions which may be found to exist.
  - 3. The Contractor further acknowledges that he assumes all risk contingents upon the nature of the subsurface conditions which shall be actually encountered by him in performing the Work of this Contract.
  - 4. The Contractor should visit the site and become acquainted with all existing conditions and may make their own subsurface investigations to satisfy themselves as to the sub-surface conditions. Such investigations shall be conducted only under time schedules and arrangements approved in advance by the Owner.

**END SECTION 31 32 13**

## **ASPHALT PAVING - 321216**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- B. State of Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, Bluebook 2022 Edition.
- C. Section Includes:
  - 1. Hot-mix asphalt patching.
  - 2. Hot-mix asphalt paving.
  - 3. Pavement Marking paint.
- D. Related Sections:
  - 1. Section 312000 - "Earth Moving" for aggregate sub-base and base courses and for aggregate pavement shoulders.

#### **1.2 DEFINITION**

- A. Hot-Mix Asphalt Paving Terminology: Refer to ASTM D 8 for definitions of terms.

#### **1.3 SUBMITTALS**

- A. Product Data: For each type of product indicated. Include technical data and tested physical and performance properties.
  - 1. Job-Mix Designs: Certification, by authorities having jurisdiction, of approval of each job mix proposed for the Work.
  - 2. Job-Mix Designs: For each job mix proposed for the Work.
  - 3. Tack Coat Material: Submit manufactures product data for approval by the Engineer prior to delivery of the material.
- B. Shop Drawings: Indicate pavement markings, lane separations, and defined parking spaces. Indicate, with international symbol of accessibility, spaces allocated for people with disabilities and wheel stops.
- C. Qualification Data: For qualified manufacturer and Installer.
- D. Material Certificates: For each paving material, from manufacturer.
- E. Material Test Reports: For each paving material.

#### **1.4 QUALITY ASSURANCE**

- A. Manufacturer Qualifications: A paving-mix manufacturer registered with and approved by RIDOT.

- B. Testing Agency Qualifications: Qualified according to ASTM D 3666 for testing indicated.
- C. Regulatory Requirements: Comply with materials, workmanship, and other applicable requirements of RIDOT for asphalt paving work.
  - 1. Measurement and payment provisions and safety program submittals included in standard specifications do not apply to this Section.
- D. Pre-installation Conference: Conduct conference at Project site.
  - 1. Review methods and procedures related to hot-mix asphalt paving including, but not limited to, the following:
    - a. Review proposed sources of paving materials, including capabilities and location of plant that will manufacture hot-mix asphalt.
    - b. Review condition of subgrade and preparatory work.
    - c. Review requirements for protecting paving work, including restriction of traffic during installation period and for remainder of construction period.
    - d. Review and finalize construction schedule and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.

#### **1.5 DELIVERY, STORAGE, AND HANDLING**

- A. Deliver pavement-marking materials to Project site in original packages with seals unbroken and bearing manufacturer's labels containing brand name and type of material, date of manufacture, and directions for storage.
- B. Store pavement-marking materials in a clean, dry, protected location within temperature range required by manufacturer. Protect stored materials from direct sunlight.

#### **1.6 PROJECT CONDITIONS**

- A. Environmental Limitations: Do not apply asphalt materials if subgrade is wet or excessively damp, if rain is imminent or expected before time required for adequate cure, or if the following conditions are not met:
  - 1. Tack Coat: Minimum surface temperature of 60 deg F.
  - 2. Asphalt Base Course: Minimum surface temperature of 40 deg F and rising at time of placement.
  - 3. Asphalt Surface Course: Minimum surface temperature of 60 deg F at time of placement.
- B. Pavement-Marking Paint: Proceed with pavement marking only on clean, dry surfaces and at a minimum ambient or surface temperature of 40 deg F for oil-based materials, 55 deg F for water-based materials, and not exceeding 95 deg F.

### **PART 2 - PRODUCTS**

#### **2.1 AGGREGATES**

- A. General: Use materials and gradations that have performed satisfactorily in previous installations.
- B. Coarse Aggregate: The coarse aggregate shall consist of clean, hard, tough, durable fragments of broken stone or gravel of uniform quality throughout. It shall not contain more than 1 percent of material such as

crusher dust sand elongated or soft disintegrated pieces. It shall be free of mud, dirt, organic or other injurious materials. When gravel is used at least 50 percent shall be crushed. When tested by means of the Los Angeles Rattler using AASHTO Method T-96, the loss shall not exceed 40 percent.

- C. Fine Aggregate: Except for base coarse which shall be 100 percent sand, the fine aggregate shall consist of sand or a mixture of a minimum of 50 percent sand and a maximum of 50 percent stone screenings, and shall be composed of clean, tough, rough surfaced and angular grains. The fine aggregate shall be limited to material 95 percent of which passes a No. 4 sieve having square openings and not more than 8 percent of which passes a No. 200 sieve. The material shall be free from clay, loam and foreign material. The Engineer reserves the right to reject material, which does not conform to the following requirements for plasticity:
1. When the fraction of the dry sample passing the No. 100 mesh sieve is 4 percent or less by weight, no plastic limit test will be made.
  2. When the fraction of the dry sample passing the No. 100 mesh sieve is greater than 4 percent and not greater than 8 percent by weight, that fraction shall not have sufficient plasticity to permit the performance of the plastic limit test using AASHTO Method T-90.
  3. When the fraction of the dry sample passing the No. 100 mesh is greater than 8 percent by weight, the sample shall be washed and additional material passing the No. 100 mesh sieve shall be determined by AASHTO Method T-146, except that the No. 100 mesh sieve shall be submitted for the No. 40 mesh sieve where the latter is specified in AASHTO Method T-146. The combined materials that have passed the No. 100 mesh sieve shall not have sufficient plasticity to permit the performance of the plastic limit test using AASHTO Method T-90. When screenings are blended, they shall be free from coatings of fine dust after drying.
- D. Mineral Filler: AASHTO M 17, rock or slag dust, hydraulic cement, or other inert material.

## **2.2 ASPHALT MATERIALS**

- A. Asphalt Binder: The asphalt cement shall conform to requirements of AASHTO M 320, PG 64S-28.
- B. Tack Coat: Tack coat material shall be grade CRS-1, CSS1 or CSS1H. Emulsified asphalt for tack coat shall use RS-1, SS-1, SS-1H conforming to AASHTO M 140.
- A. Water: Potable.

## **2.3 AUXILIARY MATERIALS**

- A. Herbicide: Commercial chemical for weed control, registered by the EPA. Provide in granular, liquid, or wet table powder form.
- B. Sand: AASHTO M 29, Grade Nos. 2 or 3.
- C. Joint Sealant: AASHTO M 324, Type II, hot-applied, single-component, polymer-modified bituminous sealant.
- D. Pavement-Marking Paint: Alkyd-resin type, lead and chromate free, ready mixed, complying with AASHTO M 248, Type F; colors complying with FS TT-P-1952.
1. Color: White, Yellow, Blue or as indicated.

**2.4 MIXES**

A. Hot-Mix Asphalt:

Mixture Classification: These mixtures shall consist of coarse aggregate, fine aggregate, mineral filler, if necessary, and asphalt cement, combined to meet the following composition limits by weight and other characteristics:

<b>Percent Passing By Weight (Square Mesh Sieve)</b>	<b>Class 12.5 Base Course</b>	<b>Class 9.5 Surface Course</b>
Passing 1"	100	-
Passing 3/4"	90-100	-
Passing 1/2"	70-100	100
Passing 3/8"	60-82	90-100
Passing #4	40-65	55-80
Passing #8	28-50	40-64
Passing #30	10-32	16-36
Passing #50	6-26	8-26
Passing #100	-	-
Passing #200	3-8	3-8
Bitumen %	5-8	5-8

Marshall Tests:

Voids %	3-6	2-5
Stability, lbs. min.	1,200	1,000
Flow inches	0.08-0.15	0.08-0.15

The fraction actually retained between any two consecutive sieves shall not be less than 4 percent.

The temperature shall be so controlled that the temperature of the asphalt cement shall not exceed 325 degrees F. and that of the aggregate at the drier outlet shall be between 280 degrees F. and 350 degrees F. depending on the amount of moisture in the aggregate. The temperature of the mixture as it is dumped from the mixer must be between 265 degrees F. and 325 degrees F.

The materials for this work shall conform to the following requirements:

1. Asphalt Cement: Shall conform to requirements for premix bituminous macadam base material.
2. Coarse Aggregate: Use coarse aggregate (retained on the No. 8 sieve) that has been crushed stone, or crushed gravel, and, unless otherwise stipulated, and that conforms to the respective requirements of subsections M01.05, M01.10 and M01.11.
3. Fine Aggregate: Use a fine aggregate that consists of sand, stone screenings or a mixture of sand and stone screenings. Ensure that stone screenings and sands are free from dirt, clay, organic matter, excess fines or other deleterious materials. Ensure that fine aggregates conform to the quality requirements of AASHTO M29.  
Use a fine aggregate with gradation that, when proportionally combined with other required aggregate fractions, the resultant mixture meets the gradation required under the composition of mixture for the specified class.

- B. Preparation of Mixture: The hot coarse and fine aggregates and asphalt cement shall be measured separately and accurately by weight for each batch to be mixed. After the coarse and fine aggregates have been charged into the mixer and thoroughly mixed for a period of not less than 15 seconds, the asphalt cement shall be added, and the mixing continued for a period of at least 30 seconds, or longer if necessary, to produce a homogeneous mixture in which all particles of the mineral aggregate are uniformly coated.

The ingredients shall be heated and combined in such a manner as to produce a mixture which shall be at a temperature, when discharged, of not less than 265°F. nor more than 325°F.

- C. Transportation of Mixture shall conform to requirements for transportation of premix bituminous macadam base material.
- D. Tack coat material shall be grade CRS-1, CSS1 or CSS1H. Emulsified asphalt for tack coat shall use RS-1, SS-1, SS-1H conforming to AASHTO M 140.
- E. Sub-base shall conform to Section 312000.
- F. Processed Aggregate Base shall conform to Section 312000.

## EXECUTION

### 2.5 EXAMINATION

- A. Verify that subgrade is dry and in suitable condition to begin paving.
- B. Proof-roll subgrade below pavements with heavy pneumatic-tired equipment to identify soft pockets and areas of excess yielding. Do not proof-roll wet or saturated subgrades.
  - 1. Completely proof-roll subgrade in one direction, repeating proof-rolling in direction perpendicular to first direction. Limit vehicle speed to 3 mph.
  - 2. Proof roll with a heavy vibratory roller.
  - 3. Excavate soft spots, unsatisfactory soils, and areas of excessive pumping or rutting, as determined by Engineer, and replace with compacted backfill or fill as directed.
- C. Proceed with paving only after unsatisfactory conditions have been corrected.
- D. Verify that utilities, traffic loop detectors, and other items requiring a cut and installation beneath the asphalt surface have been completed and that asphalt surface has been repaired flush with adjacent asphalt prior to beginning installation of imprinted asphalt.

### 2.6 PATCHING

- A. Hot-Mix Asphalt Pavement: Saw cut perimeter of patch and excavate existing pavement section to sound base. Excavate rectangular or trapezoidal patches, extending 12 inches into adjacent sound pavement, unless otherwise indicated. Cut excavation faces vertically. Remove excavated material. Re-compact existing unbound-aggregate base course to form new subgrade.
- B. Tack Coat: Apply uniformly to vertical surfaces abutting or projecting into new, hot-mix asphalt paving at a rate of 0.05 to 0.15 gal./sq. yd.
  - 1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.



2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.
- C. Patching: Partially fill excavated pavements with hot-mix asphalt base mix and, while still hot, compact. Cover asphalt base course with compacted, hot-mix surface layer finished flush with adjacent surfaces.

## **2.7 REPAIRS**

- A. Leveling Course: Install and compact leveling course consisting of hot-mix asphalt surface course to level sags and fill depressions deeper than 1 inch in existing pavements.
  1. Install leveling wedges in compacted lifts not exceeding 3 inches thick.
- B. Crack and Joint Filling: Remove existing joint filler material from cracks or joints to a depth of 1/4 inch.
  1. Clean cracks and joints in existing hot-mix asphalt pavement.
  2. Use emulsified-asphalt slurry to seal cracks and joints less than 1/4 inch wide. Fill flush with surface of existing pavement and remove excess.
  3. Use hot-applied joint sealant to seal cracks and joints more than 1/4 inch wide. Fill flush with surface of existing pavement and remove excess.

## **2.8 SURFACE PREPARATION**

- A. General: Immediately before placing asphalt materials, remove loose and deleterious material from substrate surfaces. Ensure that prepared subgrade is ready to receive paving.
- B. Herbicide Treatment: Apply herbicide according to manufacturer's recommended rates and written application instructions. Apply to dry, prepared subgrade or surface of compacted-aggregate base before applying paving materials.
  1. Mix herbicide with prime coat if formulated by manufacturer for that purpose.
- C. Tack Coat: Apply uniformly to surfaces of existing pavement at a rate of 0.05 to 0.15 gal./sq. yd..
  1. Allow tack coat to cure undisturbed before applying hot-mix asphalt paving.
  2. Avoid smearing or staining adjoining surfaces, appurtenances, and surroundings. Remove spillages and clean affected surfaces.

## **2.9 HOT-MIX ASPHALT PLACING**

- A. Machine place hot-mix asphalt on prepared surface, spread uniformly, and strike off. Place asphalt mix by hand to areas inaccessible to equipment in a manner that prevents segregation of mix. Place each course to required grade, cross section, and thickness when compacted.
  1. Place hot-mix asphalt base course in number of lifts and thicknesses indicated.
  2. Place hot-mix asphalt surface course in single lift.
  3. Begin applying mix along centerline of crown for crowned sections and on high side of one-way slopes unless otherwise indicated.
  4. Regulate paver machine speed to obtain smooth, continuous surface free of pulls and tears in asphalt-paving mat.

- B. Place paving in consecutive strips not less than 10 feet wide unless infill edge strips of a lesser width are required.
  - 1. After first strip has been placed and rolled, place succeeding strips and extend rolling to overlap previous strips. Complete a section of asphalt base course before placing asphalt surface course.
- C. Promptly correct surface irregularities in paving course behind paver. Use suitable hand tools to remove excess material forming high spots. Fill depressions with hot-mix asphalt to prevent segregation of mix; use suitable hand tools to smooth surface.

## **2.10 JOINTS**

- A. Construct joints to ensure a continuous bond between adjoining paving sections. Construct joints free of depressions, with same texture and smoothness as other sections of hot-mix asphalt course.
  - 1. Clean contact surfaces and apply tack coat to joints.
  - 2. Offset longitudinal joints, in successive courses, a minimum of 6 inches.
  - 3. Offset transverse joints, in successive courses, a minimum of 24 inches.
  - 4. Construct transverse joints at each point where paver ends a day's work and resumes work at a subsequent time. Construct these joints using either "bulkhead" or "papered" method according to AI MS-22, for both "Ending a Lane" and "Resumption of Paving Operations."
  - 5. Compact joints as soon as hot-mix asphalt will bear roller weight without excessive displacement.
  - 6. Compact asphalt at joints to a density within 2 percent of specified course density.

## **2.11 COMPACTION**

- A. General: Begin compaction as soon as placed hot-mix paving will bear roller weight without excessive displacement. Compact hot-mix paving with hot, hand tampers or with vibratory-plate compactors in areas inaccessible to rollers.
  - 1. Complete compaction before mix temperature cools to 185 deg F.
- B. Breakdown Rolling: Complete breakdown or initial rolling immediately after rolling joints and outside edge. Examine surface immediately after breakdown rolling for indicated crown, grade, and smoothness. Correct laydown and rolling operations to comply with requirements.
- C. Intermediate Rolling: Begin intermediate rolling immediately after breakdown rolling while hot-mix asphalt is still hot enough to achieve specified density. Continue rolling until hot-mix asphalt course has been uniformly compacted to the following density:
  - 1. Density: Minimum of 92 and maximum of 96 percent of reference laboratory density according to AASHTO T-209 (modified).
- D. Finish Rolling: Finish roll paved surfaces to remove roller marks while hot-mix asphalt is still warm.
- E. Edge Shaping: While surface is being compacted and finished, trim edges of pavement to proper alignment. Bevel edges while asphalt is still hot; compact thoroughly.
- F. Repairs: Remove paved areas that are defective or contaminated with foreign materials and replace with fresh, hot-mix asphalt. Compact by rolling to specified density and surface smoothness.
- G. Protection: After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened.

- H. Erect barricades to protect paving from traffic until mixture has cooled enough not to become marked.

**2.12 INSTALLATION TOLERANCES**

- A. Pavement Thickness: Compact each course to produce the thickness indicated within the following tolerances:
  - 1. Base Course: Plus or minus 3/8 inch.
  - 2. Surface Course: Plus 1/4 inch, no minus.
- B. Pavement Surface Smoothness: Compact each course to produce a surface smoothness within the following tolerances as determined by using a 10-foot straightedge applied transversely or longitudinally to paved areas:
  - 1. Base Course: 3/8 inch.
  - 2. Surface Course: 1/8 inch.
  - 3. Crowned Surfaces: Test with crowned template centered and at right angle to crown. Maximum allowable variance from template is 1/8 inch.

**2.13 PAVEMENT MARKING**

- A. Do not apply pavement-marking paint until layout, colors, and placement have been verified with Landscape Architect/Engineer.
- B. Allow paving to age for 30 days before starting pavement marking.
- C. Sweep and clean surface to eliminate loose material and dust.
- D. Apply paint with mechanical equipment to produce pavement markings, of dimensions indicated, with uniform, straight edges. Apply at manufacturer's recommended rates to provide a minimum wet film thickness of 15 mils.

**2.14 FIELD QUALITY CONTROL**

- A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections.
- B. Thickness: In-place compacted thickness of hot-mix asphalt courses will be determined according to ASTM D 3549.
- C. Surface Smoothness: Finished surface of each hot-mix asphalt course will be tested for compliance with smoothness tolerances.
- D. In-Place Density: Testing agency will take samples of uncompacted paving mixtures and compacted pavement according to AASHTO T 168.
  - 1. Reference maximum theoretical density will be determined by averaging results from four samples of hot-mix asphalt-paving mixture delivered daily to site, prepared according to ASTM D 2041, and compacted according to job-mix specifications.
  - 2. In-place density of compacted pavement will be determined by testing core samples according to ASTM D 1188 or ASTM D 2726.
    - a. Field density of in-place compacted pavement may also be determined by nuclear method according to ASTM D 2950 and correlated with ASTM D 1188 or ASTM D 2726.

- E. Replace and compact hot-mix asphalt where core tests were taken.
- F. Remove and replace or install additional hot-mix asphalt where test results or measurements indicate that it does not comply with specified requirements.

**2.15 DISPOSAL**

- A. Except for material indicated to be recycled, remove excavated materials from Project site and legally dispose of them in an EPA-approved landfill.
- B. Do not allow milled materials to accumulate on-site.

END OF SECTION 32 12 16

## **CONCRETE - 321313**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- B. State of Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, Bluebook 2022.

#### **C. SUMMARY**

- D. Section Includes:
  - 1. Pads
  - 2. Curbs
  - 3. Footings
  - 4. Wheel Stops
  - 5. Detectable Warning Tiles
  - 6. Parge Coating
- E. Related Sections:
  - 1. Section "Concrete Formwork".
  - 2. Section "Concrete Paving Joint Sealants".
  - 3. Section "Site Furnishings".

#### **1.2 DEFINITIONS**

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

#### **1.3 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Shop Drawings: Indicate pavement markings, lane separations, and defined parking spaces. Indicate, with international symbol of accessibility, spaces allocated for people with disabilities.
- C. Samples for Initial Selection: For each type of product, ingredient, or admixture requiring color selection.
- D. Samples for Verification: For each type of product or exposed finish, prepared as Samples of size indicated below:
- E. Other Action Submittals:

**City of Warwick**  
**Oakland Beach Playground, Splashpad &**  
**Stormwater Improvements**  
**Construction Documents**  
**June 2023**  
**RFP/BID #: 2024-091**

1. Design Mixtures: For each concrete paving mixture. Include alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.
- F. Qualification Data: For qualified Installer of detectable warnings, ready-mix concrete manufacturer, and testing agency.
- G. Material Certificates: For the following, from manufacturer:
  1. Cementitious materials.
  2. Fiber reinforcement.
  3. Admixtures.
  4. Curing compounds.
  5. Applied finish materials.
  6. Bonding agent or epoxy adhesive.
  7. Joint fillers.
  8. Parge Coating Manufacturer.
- H. Material Test Reports: For each of the following:
  1. Aggregates. Include service-record data indicating absence of deleterious expansion of concrete due to alkali-aggregate reactivity.
- I. Field quality-control reports.

**1.4 QUALITY ASSURANCE**

- A. Detectable Warning Installer Qualifications: An employer of workers trained and approved by manufacturer of stamped concrete paving systems.
- B. Ready-Mix-Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C 94 requirements for production facilities and equipment.
  1. Manufacturer certified according to NRMCA's "Certification of Ready Mixed Concrete Production Facilities" (Quality Control Manual - Section 3, "Plant Certification Checklist").
- C. Testing Agency Qualifications: Qualified according to ASTM C 1077 and ASTM E 329 for testing indicated.
  1. Personnel conducting field tests shall be qualified as ACI Concrete Field Testing Technician, Grade 1, according to ACI CP-1 or an equivalent certification program.
- D. Concrete Testing Service: Engage a qualified testing agency to perform material evaluation tests and to design concrete mixtures.
- E. ACI Publications: Comply with ACI 301 unless otherwise indicated.
- F. Mockups: Build mockups to verify selections made under sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.
  1. Build mockups of full-thickness sections of concrete paving to demonstrate typical joints; surface finish, texture, and color; curing; and standard of workmanship.
  2. Build mockups of concrete paving in the location and of the size indicated or, if not indicated, build mockups where directed by Engineer and not less than 96 inches by 96 inches. Include full-size detectable warning.

3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Engineer specifically approves such deviations in writing.
  4. Approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.
- G. Preinstallation Conference: Conduct conference at Project site.
1. Review methods and procedures related to concrete paving, including but not limited to, the following:
    - a. Concrete mixture design.
    - b. Quality control of concrete materials and concrete paving construction practices.
  2. Require representatives of each entity directly concerned with concrete paving to attend, including the following:
    - a. Contractor's superintendent.
    - b. Independent testing agency responsible for concrete design mixtures.
    - c. Ready-mix concrete manufacturer.
    - d. Concrete paving subcontractor.
    - e. Manufacturer's representative of stamped concrete paving system used for detectable warnings.

## **1.5 PROJECT CONDITIONS**

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

## **PART 2 - PRODUCTS**

### **2.1 FORMS**

- A. Form Materials: Refer to Section "Concrete Formwork".
- B. Form-Release Agent: Commercially formulated form-release agent that will not bond with, stain, or adversely affect concrete surfaces and that will not impair subsequent treatments of concrete surfaces.
- C. Zinc Repair Material: ASTM A 780.

### **2.2 CONCRETE MATERIALS**

- A. Cementitious Material: Use the following cementitious materials, of same type, brand, and source throughout Project:
1. Portland Cement: ASTM C 150, gray Portland cement Type II
    - a. Fly Ash: ASTM C 618, Class C or Class F.
    - b. Ground Granulated Blast-Furnace Slag: ASTM C 989, Grade 100 or 120.
- B. Normal-Weight Aggregates: ASTM C 33, Class 4S, uniformly graded. Provide aggregates from a single source with documented service-record data of at least 10 years' satisfactory service in similar paving applications and service conditions using similar aggregates and cementitious materials.

1. Maximum Coarse-Aggregate Size: 1 inch nominal.
  2. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.
- C. Water: Potable and complying with ASTM C 94.
- D. Air-Entraining Admixture: ASTM C 260.
- E. Chemical Admixtures: Admixtures certified by manufacturer to be compatible with other admixtures and to contain not more than 0.1 percent water-soluble chloride ions by mass of cementitious material.
1. Water-Reducing Admixture: ASTM C 494, Type A.
  2. Retarding Admixture: ASTM C 494, Type B.
  3. Water-Reducing and Retarding Admixture: ASTM C 494, Type D.
  4. High-Range, Water-Reducing Admixture: ASTM C 494, Type F.
  5. High-Range, Water-Reducing and Retarding Admixture: ASTM C 494, Type G.
  6. Plasticizing and Retarding Admixture: ASTM C 1017, Type II.

### **2.3 CURING MATERIALS**

- A. Absorptive Cover: AASHTO M 182, Class 3, burlap cloth made from jute or kenaf, weighing approximately 9 oz./sq. yd. dry or cotton mats.
- B. Moisture-Retaining Cover: ASTM C 171, polyethylene film or white burlap-polyethylene sheet.
- C. Water: Potable and complying with ASTM C 94.
- D. Evaporation Retarder: Waterborne, monomolecular, film forming, manufactured for application to fresh concrete.
1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Axim Italcementi Group, Inc.; Caltexol CIMFILM.
    - b. BASF Construction Chemicals, LLC; Confilm.
    - c. ChemMasters; Spray-Film.
    - d. Conspec by Dayton Superior; Aquafilm.
    - e. Dayton Superior Corporation; Sure Film (J-74).
    - f. Edoco by Dayton Superior; BurkeFilm.
    - g. Euclid Chemical Company (The), an RPM company; Eucobar.
    - h. Kaufman Products, Inc.; VaporAid.
    - i. Lambert Corporation; LAMBCO Skin.
    - j. L&M Construction Chemicals, Inc.; E-CON.
    - k. Meadows, W. R., Inc.; EVAPRE.
    - l. Metalcrete Industries; Waterhold.
    - m. Nox-Crete Products Group; MONOFILM.
    - n. Sika Corporation, Inc.; SikaFilm.
    - o. SpecChem, LLC; Spec Film.
    - p. Symons by Dayton Superior; Finishing Aid.
    - q. TK Products, Division of Sierra Corporation; TK-2120 TRI-FILM.
    - r. Unitex; PRO-FILM.
    - s. Vexcon Chemicals Inc.; Certi-Vex EnvioAssist.
- E. Clear, Waterborne, Membrane-Forming Curing Compound: ASTM C 309, Type 1, Class B, dissipating.



1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Anti-Hydro International, Inc.; A-H Curing Compound #2 DR WB.
  - b. ChemMasters; Safe-Cure Clear.
  - c. Conspec by Dayton Superior; D.O.T. Resin Cure.
  - d. Dayton Superior Corporation; Day-Chem Rez Cure (J-11-W).
  - e. Edoco by Dayton Superior; DSSCC Clear Resin Cure.
  - f. Euclid Chemical Company (The), an RPM company; Kurez W VOX.
  - g. Kaufman Products, Inc.; Thinfilm 420.
  - h. Lambert Corporation; AQUA KURE - CLEAR.
  - i. L&M Construction Chemicals, Inc.; L&M CURE R.
  - j. Meadows, W. R., Inc.; 1100-CLEAR SERIES.
  - k. Nox-Crete Products Group; Resin Cure E.
  - l. SpecChem, LLC; PaveCure Rez.
  - m. Symons by Dayton Superior; Resi-Chem Clear.
  - n. Tamms Industries, Inc., Euclid Chemical Company (The); TAMMSCURE WB 30C.
  - o. TK Products, Division of Sierra Corporation; TK-2519 DC WB.
  - p. Vexcon Chemicals Inc.; Certi-Vex Enviocure 100.

#### **2.4 RELATED MATERIALS**

- A. Joint Fillers: ASTM D 1751, asphalt-saturated cellulosic fiber in preformed strips.
- B. Epoxy Bonding Adhesive: ASTM C 881, two-component epoxy resin capable of humid curing and bonding to damp surfaces; of class suitable for application temperature, of grade complying with requirements, and of the following types:
  1. Types IV and V, load bearing, for bonding hardened or freshly mixed concrete to hardened concrete.
- C. Chemical Surface Retarder: Water-soluble, liquid, set retarder with color dye, for horizontal concrete surface application, capable of temporarily delaying final hardening of concrete to a depth of 1/8 to 1/4 inch.
  1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. ChemMasters; Exposee.
    - b. Conspec by Dayton Superior; Delay S.
    - c. Dayton Superior Corporation; Sure Etch (J-73).
    - d. Edoco by Dayton Superior; True Etch Surface Retarder.
    - e. Euclid Chemical Company (The), an RPM company; Surface Retarder Formula S.
    - f. Kaufman Products, Inc.; Expose.
    - g. Meadows, W. R., Inc.; TOP-STOP.
    - h. Metalcrete Industries; Surfard.
    - i. Nox-Crete Products Group; CRETE-NOX TA.
    - j. Scofield, L. M. Company; LITHOTEX Top Surface Retarder.
    - k. Sika Corporation, Inc.; Rugasol-S.
    - l. SpecChem, LLC; Spec Etch.
    - m. TK Products, Division of Sierra Corporation; TK-6000 Concrete Surface Retarder.
    - n. Unitex; TOP-ETCH Surface Retarder.
    - o. Vexcon Chemicals Inc.; Certi-Vex Envioset.

**2.5 DETECTABLE WARNING MATERIALS**

- A. Detectable Warning Tiles:
  - 1. Manufacturers: Subject to compliance with Contract Drawings, qualified manufacturers from the Rhode Island Department of Transportation approved products list or approved equal.
- B. Liquid Release Agent: Manufacturer's standard, clear, evaporating formulation designed to facilitate release of stamp mats.

**2.6 CONCRETE MIXTURES**

- A. Prepare design mixtures, proportioned according to ACI 301, for each type and strength of normal-weight concrete, and as determined by either laboratory trial mixtures or field experience.
  - 1. Use a qualified independent testing agency for preparing and reporting proposed concrete design mixtures for the trial batch method.
  - 2. When automatic machine placement is used, determine design mixtures and obtain laboratory test results that meet or exceed requirements.
- B. Proportion mixtures to provide normal-weight concrete with the following properties:
  - 1. Compressive Strength (28 Days):
    - a. 3500 psi for footings
    - b. 4000 psi for pavement
    - c. 5000 psi for wheel stops
  - 2. Maximum Water-Cementitious Materials Ratio at Point of Placement: 0.44.
  - 3. Slump Limit: 4 inches, plus or minus 1 inch.
- C. Add air-entraining admixture at manufacturer's prescribed rate to result in normal-weight concrete at point of placement having an air content as follows:
  - 1. Air Content: 6 percent plus or minus 1.5 percent for 1-inch nominal maximum aggregate size.
- D. Limit water-soluble, chloride-ion content in hardened concrete to 0.15 percent by weight of cement.
- E. Chemical Admixtures: Use admixtures according to manufacturer's written instructions.
  - 1. Use water-reducing admixture, high-range, water-reducing admixture, or high-range, water-reducing and retarding admixture in concrete as required for placement and workability.
  - 2. Use water-reducing and retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
- F. Cementitious Materials: Limit percentage by weight of cementitious materials other than portland cement according to ACI 301 requirements for concrete exposed to deicing chemicals.
- G. Parge Coating: Tuff II trowel on Coating by Styro Industries or Approved equal.
  - 1. Color: Dark Grey.
- H. Limit percentage by weight of cementitious materials other than portland cement according to ACI 301 requirements for concrete exposed to deicing chemicals.

## **2.7 CONCRETE MIXING**

- A. Ready-Mixed Concrete: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Furnish batch certificates for each batch discharged and used in the Work.
  - 1. When air temperature is between 85 and 90 deg F, reduce mixing and delivery time from 1-1/2 hours to 75 minutes; when air temperature is above 90 deg F, reduce mixing and delivery time to 60 minutes.
- B. Project-Site Mixing: Measure, batch, and mix concrete materials and concrete according to ASTM C 94. Mix concrete materials in appropriate drum-type batch machine mixer.
  - 1. For concrete batches of 1 cu. yd. or smaller, continue mixing at least 1-1/2 minutes, but not more than 5 minutes after ingredients are in mixer, before any part of batch is released.
  - 2. For concrete batches larger than 1 cu. yd., increase mixing time by 15 seconds for each additional 1 cu. yd.
  - 3. Provide batch ticket for each batch discharged and used in the Work, indicating Project identification name and number, date, mixture type, mixing time, quantity, and amount of water added.

## **PART 3 - EXECUTION**

### **3.1 EXAMINATION**

- A. Examine exposed subgrades and subbase surfaces for compliance with requirements for dimensional, grading, and elevation tolerances.
- B. Proof-roll prepared subbase surface below concrete paving to identify soft pockets and areas of excess yielding.
  - 1. Completely proof-roll subbase in one direction and repeat in perpendicular direction. Limit vehicle speed to 3 mph.
  - 2. Proof-roll with a heavy vibratory roller.
  - 3. Correct subbase with soft spots and areas of pumping or rutting exceeding depth of 1/2 inch according to requirements in Division 31 Section "Earth Moving."
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

### **3.2 PREPARATION**

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

### **3.3 EDGE FORMS AND SCREED CONSTRUCTION**

- A. Set, brace, and secure edge forms, bulkheads, and intermediate screed guides to required lines, grades, and elevations. Install forms to allow continuous progress of work and so forms can remain in place at least 24 hours after concrete placement.
- B. Clean forms after each use and coat with form-release agent to ensure separation from concrete without damage.

**3.4 STEEL REINFORCEMENT**

- A. Refer to section "Reinforcement".

**3.5 JOINTS**

- A. General: Form construction, isolation, and contraction joints and tool edges true to line, with faces perpendicular to surface plane of concrete. Construct transverse joints at right angles to centerline unless otherwise indicated.
1. When joining existing paving, place transverse joints to align with previously placed joints unless otherwise indicated.
- B. Construction Joints: Set construction joints at side and end terminations of paving and at locations where paving operations are stopped for more than one-half hour unless paving terminates at isolation joints.
1. Continue steel reinforcement across construction joints unless otherwise detailed. Do not continue reinforcement through sides of paving strips unless otherwise indicated.
  2. Provide tie bars at sides of paving strips where indicated.
  3. Butt Joints: Use epoxy bonding adhesive at joint locations where fresh concrete is placed against hardened or partially hardened concrete surfaces.
- C. Isolation Joints: Form isolation joints of preformed joint-filler strips abutting concrete curbs, catch basins, manholes, inlets, structures, other fixed objects, and where indicated.
1. Locate expansion joints at intervals of 20 feet unless otherwise indicated.
  2. Extend joint fillers full width and depth of joint.
  3. Terminate joint filler not less than 1/2 inch or more than 1 inch below finished surface if joint sealant is indicated.
  4. Place top of joint filler flush with finished concrete surface if joint sealant is not indicated.
  5. Furnish joint fillers in one-piece lengths. Where more than one length is required, lace or clip joint-filler sections together.
  6. During concrete placement, protect top edge of joint filler with metal, plastic, or other temporary preformed cap. Remove protective cap after concrete has been placed on both sides of joint.
- D. Contraction Joints: Form weakened-plane contraction joints, sectioning concrete into areas as indicated. Construct contraction joints for a depth equal to at least one-fourth of the concrete thickness, as follows, to match jointing of existing adjacent concrete paving:
1. Grooved Joints: Form contraction joints after initial floating by grooving and finishing each edge of joint with grooving tool to a 1/4-inch radius. Repeat grooving of contraction joints after applying surface finishes. Eliminate grooving-tool marks on concrete surfaces.
    - a. Tolerance: Ensure that grooved joints are within 3 inches either way from centers of dowels.
- E. Edging: After initial floating, tool edges of paving, curbs, and joints in concrete with an edging tool to a 1/4-inch radius. Repeat tooling of edges after applying surface finishes. Eliminate edging-tool marks on concrete surfaces.

**3.6 CONCRETE PLACEMENT**

- A. Before placing concrete, inspect and complete formwork installation, steel reinforcement, and items to be embedded or cast-in.

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- B. Remove snow, ice, or frost from subbase surface and steel reinforcement before placing concrete. Do not place concrete on frozen surfaces.
- C. Moisten subbase to provide a uniform dampened condition at time concrete is placed. Do not place concrete around manholes or other structures until they are at required finish elevation and alignment.
- D. Comply with ACI 301 requirements for measuring, mixing, transporting, and placing concrete.
- E. Do not add water to concrete during delivery or at Project site. Do not add water to fresh concrete after testing.
- F. Deposit and spread concrete in a continuous operation between transverse joints. Do not push or drag concrete into place or use vibrators to move concrete into place.
- G. Consolidate concrete according to ACI 301 by mechanical vibrating equipment supplemented by hand spading, rodding, or tamping.
  - 1. Consolidate concrete along face of forms and adjacent to transverse joints with an internal vibrator. Keep vibrator away from joint assemblies, reinforcement, or side forms. Use only square-faced shovels for hand spreading and consolidation. Consolidate with care to prevent dislocating reinforcement, dowels and joint devices.
- H. Screed paving surface with a straightedge and strike off.
- I. Commence initial floating using bull floats or darbies to impart an open-textured and uniform surface plane before excess moisture or bleed water appears on the surface. Do not further disturb concrete surfaces before beginning finishing operations or spreading surface treatments.
- J. Curbs: Use design mixture for automatic machine placement. Produce curbs and gutters to required cross section, lines, grades, finish, and jointing.
- K. Slip-Form Paving: Use design mixture for automatic machine placement. Produce paving to required thickness, lines, grades, finish, and jointing.
  - 1. Compact subbase and prepare subgrade of sufficient width to prevent displacement of slip-form paving machine during operations.
- L. Cold-Weather Placement: Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing, or low temperatures. Comply with ACI 306.1 and the following:
  - 1. When air temperature has fallen to or is expected to fall below 40 deg F, uniformly heat water and aggregates before mixing to obtain a concrete mixture temperature of not less than 50 deg F and not more than 80 deg F at point of placement.
  - 2. Do not use frozen materials or materials containing ice or snow.
  - 3. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in design mixtures.
- M. Hot-Weather Placement: Comply with ACI 301 and as follows when hot-weather conditions exist:
  - 1. Cool ingredients before mixing to maintain concrete temperature below 90 deg F at time of placement. Chilled mixing water or chopped ice may be used to control temperature, provided water equivalent of ice is calculated in total amount of mixing water. Using liquid nitrogen to cool concrete is Contractor's option.
  - 2. Cover steel reinforcement with water-soaked burlap so steel temperature will not exceed ambient air temperature immediately before embedding in concrete.

3. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade moisture uniform without standing water, soft spots, or dry areas.

### **3.7 FINISHING**

- A. General: Do not add water to concrete surfaces during finishing operations.
- B. Float Finish: Begin the second floating operation when bleed-water sheen has disappeared and concrete surface has stiffened sufficiently to permit operations. Float surface with power-driven floats or by hand floating if area is small or inaccessible to power units. Finish surfaces to true planes. Cut down high spots and fill low spots. Refloat surface immediately to uniform granular texture.
  1. Medium-to-Fine-Textured Broom Finish: Draw a soft-bristle broom across float-finished concrete surface perpendicular to line of traffic to provide a uniform, fine-line texture, as Detailed.
  2. Margin: Smooth Trowel Finish as Detailed.
- C. Parge Finish: For Catch Basins and Wheel Stops (if to cover markings). Trowel Finish.

### **3.8 DETECTABLE WARNINGS**

- A. Detectable Warnings: Install detectable warning tile according to manufacturer's written instructions.
  1. Before using stamp mats, verify that the vent holes are unobstructed.

### **3.9 CONCRETE PROTECTION AND CURING**

- A. General: Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
- B. Comply with ACI 306.1 for cold-weather protection.
- C. Evaporation Retarder: Apply evaporation retarder to concrete surfaces if hot, dry, or windy conditions cause moisture loss approaching 0.2 lb/sq. ft. x h before and during finishing operations. Apply according to manufacturer's written instructions after placing, screeding, and bull floating or darbying concrete but before float finishing.
- D. Begin curing after finishing concrete but not before free water has disappeared from concrete surface.
- E. Curing Methods: Cure concrete by moisture curing, moisture-retaining-cover curing, curing compound or a combination of these as follows:
  1. Moisture Curing: Keep surfaces continuously moist for not less than seven days with the following materials:
    - a. Water.
    - b. Continuous water-fog spray.
    - c. Absorptive cover, water saturated and kept continuously wet. Cover concrete surfaces and edges with 12-inch lap over adjacent absorptive covers.
  2. Moisture-Retaining-Cover Curing: Cover concrete surfaces with moisture-retaining cover, placed in widest practicable width, with sides and ends lapped at least 12 inches and sealed by waterproof tape or adhesive. Immediately repair any holes or tears occurring during installation or curing period using cover material and waterproof tape.

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

### **3.10 PAVING TOLERANCES**

- A. Comply with tolerances in ACI 117 and as follows:
  1. Elevation: 1/4 inch.
  2. Thickness: Plus 3/8 inch, minus 1/4 inch.
  3. Surface: Gap below 10-foot long, unleveled straightedge not to exceed 1/2 inch.
  4. Alignment of Tie-Bar End Relative to Line Perpendicular to Paving Edge: 1/2 inch per 12 inches of tie bar.
  5. Lateral Alignment and Spacing of Dowels: 1 inch.
  6. Vertical Alignment of Dowels: 1/4 inch.
  7. Alignment of Dowel-Bar End Relative to Line Perpendicular to Paving Edge: 1/4 inch per 12 inches of dowel.
  8. Contraction Joint Depth: Plus 1/8 inch, no minus.
  9. Joint Width: Plus 1/8 inch, no minus.

### **3.11 FIELD QUALITY CONTROL**

- A. Testing Agency: Contractor will engage a qualified testing agency to perform tests and inspections.
- B. Testing Services: Testing of composite samples of fresh concrete obtained according to ASTM C 172 shall be performed according to the following requirements:
  1. Testing Frequency: Obtain at least one composite sample for each 100 cu. yd. or fraction thereof of each concrete mixture placed each day.
    - a. When frequency of testing will provide fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
  2. Slump: ASTM C 143; one test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture. Perform additional tests when concrete consistency appears to change.
  3. Air Content: ASTM C 231, pressure method; one test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
  4. Concrete Temperature: ASTM C 1064; one test hourly when air temperature is 40 deg F and below and when it is 80 deg F and above, and one test for each composite sample.
  5. Compression Test Specimens: ASTM C 31; cast and laboratory cure one set of three standard cylinder specimens for each composite sample.
  6. Compressive-Strength Tests: ASTM C 39; test one specimen at seven days and two specimens at 28 days.
    - a. A compressive-strength test shall be the average compressive strength from two specimens obtained from same composite sample and tested at 28 days.
- C. Strength of each concrete mixture will be satisfactory if average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength and no compressive-strength test value falls below specified compressive strength by more than 500 psi.

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- D. Test results shall be reported in writing to Engineer, concrete manufacturer, and Contractor within 48 hours of testing. Reports of compressive-strength tests shall contain Project identification name and number, date of concrete placement, name of concrete testing and inspecting agency, location of concrete batch in Work, design compressive strength at 28 days, concrete mixture proportions and materials, compressive breaking strength, and type of break for both 7- and 28-day tests.
- E. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Engineer but will not be used as sole basis for approval or rejection of concrete.
- F. Additional Tests: Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Engineer.
- G. Concrete paving will be considered defective if it does not pass tests and inspections.
- H. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.
- I. Prepare test and inspection reports.

**3.12 REPAIRS AND PROTECTION**

- A. Remove and replace concrete paving that is broken, damaged, or defective or that does not comply with requirements in this Section. Remove work in complete sections from joint to joint unless otherwise approved by Engineer.
- B. Drill test cores, where directed by Engineer, when necessary to determine magnitude of cracks or defective areas. Fill drilled core holes in satisfactory paving areas with portland cement concrete bonded to paving with epoxy adhesive.
- C. Protect concrete paving from damage. Exclude traffic from paving for at least 14 days after placement. When construction traffic is permitted, maintain paving as clean as possible by removing surface stains and spillage of materials as they occur.
- D. Maintain concrete paving free of stains, discoloration, dirt, and other foreign material. Sweep paving not more than two days before date scheduled for Substantial Completion inspections.

END OF SECTION 32 13 13



## **CONCRETE PAVING JOINT SEALANTS - 321373**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section Includes:
  - 1. Cold-applied joint sealants.
- B. Related Sections:
  - 1. Section "Asphalt Paving" for constructing joints between concrete and asphalt pavement.
  - 2. Section "Concrete Paving" for constructing joints in concrete pavement.

#### **1.3 PRECONSTRUCTION TESTING**

- A. Preconstruction Compatibility and Adhesion Testing: Submit to joint-sealant manufacturers, for testing indicated below, Samples of materials that will contact or affect joint sealants.
  - 1. Use ASTM C 1087 to determine whether priming and other specific joint-preparation techniques are required to obtain rapid, optimum adhesion of joint sealants to joint substrates.
  - 2. Submit no fewer than eight (8) pieces of each type of material, including joint substrates, shims, joint-sealant backings, secondary seals, and miscellaneous materials.
  - 3. Schedule sufficient time for testing and analyzing results to prevent delaying the Work.
  - 4. For materials failing tests, obtain joint-sealant manufacturer's written instructions for corrective measures including use of specially formulated primers.
  - 5. Testing will not be required if joint-sealant manufacturers submit joint-preparation data that are based on previous testing, not older than 24 months, of sealant products for compatibility with and adhesion to joint substrates and other materials matching those submitted.

#### **1.4 SUBMITTALS**

- A. Product Data: For each joint-sealant product indicated.
- B. Samples for Verification: For each kind and color of joint sealant required, provide Samples with joint sealants in 1/2-inch-wide joints formed between two 6-inch long strips of material matching the appearance of exposed surfaces adjacent to joint sealants.
- C. Pavement-Joint-Sealant Schedule: Include the following information:
  - 1. Joint-sealant application, joint location, and designation.
  - 2. Joint-sealant manufacturer and product name.

3. Joint-sealant formulation.
  4. Joint-sealant color.
- D. Qualification Data: For qualified Installer
- E. Product Certificates: For each type of joint sealant and accessory, from manufacturer.
- F. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for joint sealants.
- G. Preconstruction Compatibility and Adhesion Test Reports: From joint-sealant manufacturer, indicating the following:
1. Materials forming joint substrates and joint-sealant backings have been tested for compatibility with and adhesion to joint sealants.
  2. Interpretation of test results and written recommendations for primers and substrate preparation needed for adhesion.

## **1.5 QUALITY ASSURANCE**

- A. Installer Qualifications: Manufacturer's authorized representative who is trained and approved for installation of units required for this Project.
- B. Source Limitations: Obtain each type of joint sealant from single source from single manufacturer.
- C. Product Testing: Test joint sealants using a qualified testing agency.
1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
- D. Preinstallation Conference: Conduct conference at Project site.

## **1.6 PROJECT CONDITIONS**

- A. Do not proceed with installation of joint sealants under the following conditions:
1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer **or** are below 40 deg F.
  2. When joint substrates are wet.
  3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
  4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

## **PART 2 - PRODUCTS**

### **2.1 MATERIALS**

- A. Compatibility: Provide joint sealants, backing materials, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer based on testing and field experience.

- B. Colors of Exposed Joint Sealants: As selected by Engineer from manufacturer's full range. Color selected to match adjacent concrete.

## **2.2 COLD-APPLIED JOINT SEALANTS**

- A. Single-Component, Nonsag, Silicone Joint Sealant for Concrete: ASTM D 5893, Type NS.
  - 1. Products: Subject to compliance with requirements, available products that may be incorporated into the Work include, but are not limited to, the following:
    - a. Crafcoc Inc., an ERGON company; RoadSaver Silicone.
    - b. Dow Corning Corporation; 888.
    - c. Pecora Corporation; 301 NS.

## **2.3 JOINT-SEALANT BACKER MATERIALS**

- A. General: Provide joint-sealant backer materials that are nonstaining; are compatible with joint substrates, sealants, primers, and other joint fillers; and are approved for applications indicated by joint-sealant manufacturer based on field experience and laboratory testing.
- B. Round Backer Rods for Cold-Applied Joint Sealants: ASTM D 5249, Type 3, of diameter and density required to control joint-sealant depth and prevent bottom-side adhesion of sealant.

## **2.4 PRIMERS**

- A. Primers: Product recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.

# **PART 3 - EXECUTION**

## **3.1 EXAMINATION**

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

## **3.2 PREPARATION**

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions.
- B. Joint Priming: Prime joint substrates where indicated or where recommended in writing by joint-sealant manufacturer, based on preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.

**3.3 INSTALLATION OF JOINT SEALANTS**

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated unless more stringent requirements apply.
- B. Joint-Sealant Installation Standard: Comply with recommendations in ASTM C 1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install joint-sealant backings of kind indicated to support joint sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
  - 1. Do not leave gaps between ends of joint-sealant backings.
  - 2. Do not stretch, twist, puncture, or tear joint-sealant backings.
  - 3. Remove absorbent joint-sealant backings that have become wet before sealant application and replace them with dry materials.
- D. Install joint sealants using proven techniques that comply with the following and at the same time backings are installed:
  - 1. Place joint sealants so they directly contact and fully wet joint substrates.
  - 2. Completely fill recesses in each joint configuration.
  - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- E. Tooling of Nonsag Joint Sealants: Immediately after joint-sealant application and before skinning or curing begins, tool sealants according to the following requirements to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint:
  - 1. Remove excess joint sealant from surfaces adjacent to joints.
  - 2. Use tooling agents that are approved in writing by joint-sealant manufacturer and that do not discolor sealants or adjacent surfaces.
- F. Provide joint configuration to comply with joint-sealant manufacturer's written instructions unless otherwise indicated.

**3.4 CLEANING**

- A. Clean off excess joint sealant or sealant smears adjacent to joints as the Work progresses, by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

**3.5 PROTECTION**

- A. Protect joint sealants, during and after curing period, from contact with contaminating substances and from damage resulting from construction operations or other causes so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out and remove damaged or deteriorated joint sealants immediately and replace with joint sealant so installations in repaired areas are indistinguishable from the original work.

END OF SECTION 32 13 73

## CAST-IN-PLACE CONCRETE RETAINING WALL - 323213

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes
  - 1. Design and construction of the cast-in-place concrete retaining wall complete, as shown on the drawings and as specified herein.
  - 2. The Contractor shall furnish all labor, materials, tools and equipment and shall do all work to satisfactorily construct the cast-in-place concrete retaining wall, including foundation and bedding, supervision of backfill and compaction, clean-up and all incidentals necessary to complete the work.
- B. Related Sections:
  - 1. 03 10 00 "Concrete Formwork"
  - 2. 03 20 00 "Reinforcement"
  - 3. 03 30 00 "Cast in Place Concrete"
  - 4. 31 10 00 "Site Clearing"
  - 5. 31 20 00 "Earth Moving"

#### 1.3 QUALITY ASSURANCE

- A. The quality of materials and the finished sections shall be subject to inspection by the Engineer. Walls shall be subject to rejection at any time if they fail to meet any of the specification requirements. Any Section, which are rejected, shall be promptly removed from the job site by the Contractor.

#### 1.4 REFERENCES

- A. The following standards form a part of this subsection, as referenced
  - 1. American Society for Testing and Materials (ASTM)
  - 2. All standards include in Section 03 20 00 "Reinforcement"
  - 3. All standards included in Section 03 30 00 Cast in Place Concrete"

#### 1.5 SUBMITTALS

- A. Shop drawings of the materials specified herein.
- B. Statement of materials constituting the design of mixes which satisfy the specified strength for each size aggregate as required by ASTM C94 within one week following award of the contract.
- C. Provide one copy of the "Certificate of Delivery" for each load of concrete as it arrives on the site, under the provisions of ASTM C94.

## **PART 2 - PRODUCTS**

### **2.1 CONCRETE**

- A. Concrete shall have a minimum 28-day strength of 4000 psi.
- B. Type II cement shall be used except as otherwise approved.
- C. Aggregate shall be ¾ inch for walls less than 18-inches thick and 1-1/2 inch for walls greater than 18 inches thick.

### **2.2 STEEL REINFORCEMENT**

Steel reinforcement shall be grade 60 and conform to ASTM A615 with a minimum of 2-inches of concrete cover over steel unless otherwise noted on the drawings.

## **PART 3 - PRODUCTS**

### **3.1 INSTALLATION**

- A. The retaining wall shall be constructed to the lines and grades indicated on the drawings.
- B. Weepholes shall be provided as shown on the drawings to prevent build-up of hydrostatic pressure behind the wall.
- C. Cast-in-place concrete retaining wall shall be hand parged and ground smooth.

END OF SECTION 32 32 13

## **SITE FURNISHINGS - 323300**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. Section Includes:
  - 1. Surface Mounted Bench With Back
  - 2. Surface Mounted Bench Without Back
  - 3. ADA Accessible Picnic Table
  - 4. Trash Receptacle
  - 5. Bike Rack
  - 6. Nautical Bollard-Single
  - 7. Nautical Bollard-Triple
  - 8. Nautical Lighted Bollard
  - 9. Playscape Structure
  - 10. Playground Surfacing
  - 11. Vortex Splash Pad Fixtures
  
- B. Related Requirements:
  - 1. Section 03 30 00 "Cast-in-Place Concrete".
  - 2. Section 31 20 00 "Earth Moving".

#### **1.3 ACTION SUBMITTALS**

- A. Product Data: For each type of product.
- B. Samples: For each exposed product and for each color and texture specified.
- C. Engineered shop drawings for structures and footings

#### **1.4 CLOSEOUT SUBMITTALS**

- A. Maintenance Data: For site furnishings to include in maintenance manuals.

### **PART 2 - PRODUCTS**

#### **2.1 SURFACE MOUNTED BENCH WITH BACK**

- A. Provide and install 8' long 34 Series, Model # 34-80I-2AR by DuMor, Inc., (800)-598-4018, [www.dumor.com](http://www.dumor.com), or approved equal.
- B. All wood components shall be lpe S4S EE. All steel components shall be powder coated. Color to be determined by owner.

- C. Contractor to install bench per manufacturer's specifications

**2.2 SURFACE MOUNTED BENCH WITHOUT BACK**

- A. Provide and install 8' long 67 Series, Model # 67-842-951 by DuMor, Inc., (800)-598-4018, [www.dumor.com](http://www.dumor.com), or approved equal.
- B. All wood components shall be Ipe S4S EE. All steel components shall be powder coated. Color to be determined by owner/ owner's representative.
- C. Contractor to install bench per manufacturer's specifications.

**2.3 ADA ACCESSIBLE PICNIC TABLE**

- A. Provide and install Table 295-30I (3 seat) by DuMor Inc., (800)-598-4018, [www.dumor.com](http://www.dumor.com), or approved equal.
- B. All wood components shall be Ipe S4S EE. All steel components shall be powder coated. Color to be determined by owner/owner's representative.
- C. Contractor to install table per manufacturer's specifications.

**2.4 TRASH RECEPTACLE**

- A. Provide and install Receptacle 170 (32 Gallon) with Dome Top by DuMor Inc., (800)-598-4018, [www.dumor.com](http://www.dumor.com), or approved equal.
- B. All steel components shall be powder coated black.
- C. Contractor to install receptacle per manufacturer's specifications.
- D. Mounting condition: as directed by owner/owner's representative.

**2.5 BIKE RACK**

- A. Provide and install Bike Rack 125-40 by DuMor Inc., (800)-598-4018, [www.dumor.com](http://www.dumor.com), or approved equal.
- B. All steel components shall be powder coated. Color to be determined by owner/owner's representative.
- C. Contractor to install bike rack per manufacturer's specifications.
- D. Mounting condition: as directed by owner/owner's representative.

**2.6 NAUTICAL BOLLARD SINGLE**

- A. Provide and install single 12" diameter round pressure treated wooden bollard 7'-6" height.
- B. Contractor to sand all edges smooth



- C. Contractor or manufacturer to apply pressure treated sealant for all cut ends, sanded areas prior to installation.
- D. Rope material shall consist of 1" natural hemp twisted manila rope.
- E. Contractor to install nautical bollard per construction drawings.

**2.7 NAUTICAL BOLLARD TRIPLE**

- A. Provide and install single 12" diameter round pressure treated wooden bollard 7'-6", 6'-10", and 5'-9" height.
- B. Contractor to sand all edges smooth
- C. Contractor or manufacturer to apply pressure treated sealant for all cut ends, sanded areas, and drill holes prior to installation.
- D. Fasten Bollards with 16" stainless steel threaded rod and 4" stainless steel nails as specified in contract documents countersunk and bolts smooth to bollard.
- E. Rope material shall consist of 1" natural hemp twisted manila rope.
- F. Contractor to install nautical bollards per construction drawings.

**2.8 NAUTICAL LIGHTED BOLLARD**

- A. Provide and install nautical piling light by PilingLight.com, 941-504-9087, [pilinglight@gmail.com](mailto:pilinglight@gmail.com), or approved equal.
- B. Contractor to provide and install polyethylene plastic cone with LED strip sealed in silicone tube, color of white
- C. Contractor to install nautical bollards per construction drawings.

**2.9 PLAYGROUND STRUCTURE**

- A. Provide and install playground equipment by Landscape Structures, 888-438-6574, [www.playlsi.com](http://www.playlsi.com), or approved equal. Distributed by M.E. O'Brien and Sons, Inc. 17 Trotter Drive P.O. Box 718, Medway, MA 02053. 1-508-359-4200.
- B. Contractor to submit engineered stamped shop drawing by a licensed engineer of The State of Rhode Island of all play structures and footings for approval, prior to commencement of work.
- C. Contractor to install all play structures per manufacturers specifications.

**2.10 PLAYGROUND SURFACING**

- A. Contractor to provide and install playground surfacing by Surface America, 800-999-0555, [www.surfaceamerica.com](http://www.surfaceamerica.com) (or approved equal). Distributed by M.E. O'Brien and Sons, Inc. 17 Trotter Drive P.O. Box 718, Medway, MA 02053. 1-508-359-4200.

- B. Contractor to provide playground surfacing color of sky blue
- C. Playground surfacing thickness shall be coordinated with the fall zone requirements provided by the play structure manufacturer.
- D. Contractor to install playground surfacing per manufacturers specifications.

**2.11 VORTEX SPLASH PAD FIXTURES**

- A. Provide and install splash pad fixtures by Vortex, 1-877-586-7839, [www.vortex-intl.com](http://www.vortex-intl.com), or approved equal. Distributed by M.E. O'Brien and Sons, Inc. 17 Trotter Drive P.O. Box 718, Medway, MA 02053. 1-508-359-4200.
- B. Contractor to submit shop drawing of all splash pad fixtures and installation methods for approval, prior to commencement of work.
- C. Contractor to install all splash pad fixtures per manufacturers specifications.

**2.12 FABRICATION**

- A. Metal Components: Form to required shapes and sizes with true, consistent curves, lines, and angles. Separate metals from dissimilar materials to prevent electrolytic action.
- B. Welded Connections: Weld connections continuously. Weld solid members with full-length, full-penetration welds and hollow members with full-circumference welds. At exposed connections, finish surfaces smooth and blended so no roughness or unevenness shows after finishing and welded surface matches contours of adjoining surfaces.
- C. Pipes and Tubes: Form simple and compound curves by bending members in jigs to produce uniform curvature for each repetitive configuration required; maintain cylindrical cross section of member throughout entire bend without buckling, twisting, cracking, or otherwise deforming exposed surfaces of handrail and railing components.
- D. Preservative-Treated Wood Components: Complete fabrication of treated items before treatment if possible. If cut after treatment, apply field treatment complying with AWPA M4 to cut surfaces.
- E. Exposed Surfaces: Polished, sanded, or otherwise finished; all surfaces smooth, free of burrs, barbs, splinters, and sharpness; all edges and ends rolled, rounded, or capped.
- F. Factory Assembly: Assemble components in the factory to greatest extent possible to minimize field assembly. Clearly mark units for assembly in the field.

**2.13 GENERAL FINISH REQUIREMENTS**

- A. Appearance of Finished Work: Noticeable variations in same piece are not acceptable. Variations in appearance of adjoining components are acceptable if they are within the range of approved Samples and are assembled or installed to minimize contrast.

**2.14 ALUMINUM FINISHES**

- A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

**2.15 STEEL AND GALVANIZED-STEEL FINISHES**

- A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.
- B. PVC Finish: Manufacturer's standard, UV-light stabilized, mold-resistant, slip-resistant, matte-textured, dipped or sprayed-on, PVC-plastisol finish, with flame retardant added; complying with coating manufacturer's written instructions for pretreatment, application, and minimum dry film thickness.

**2.16 IRON FINISHES**

- A. Baked-Enamel, Powder-Coat Finish: Manufacturer's standard, baked, polyester, powder-coat finish complying with finish manufacturer's written instructions for surface preparation, including pretreatment, application, baking, and minimum dry film thickness.

**2.17 STAINLESS-STEEL FINISHES**

- A. Surface Preparation: Remove tool and die marks and stretch lines, or blend into finish.
- B. Polished Finishes: Grind and polish surfaces to produce uniform finish, free of cross scratches.
  - 1. Run directional finishes with long dimension of each piece.
  - 2. Directional Satin Finish: No. 4.
  - 3. Dull Satin Finish: No. 6.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Examine areas and conditions, with Installer present, for compliance with requirements for correct and level finished grade, mounting surfaces, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

**3.2 INSTALLATION, GENERAL**

- A. Comply with manufacturer's written installation instructions unless more stringent requirements are indicated. Complete field assembly of site furnishings where required.
- B. Unless otherwise indicated, install site furnishings after landscaping and paving have been completed.
- C. Install site furnishings level, plumb, true, and positioned at locations indicated on Drawings.
- D. Post Setting: Set cast-in support posts in concrete footing with smooth top, shaped to shed water. Protect portion of posts above footing from concrete splatter. Verify that posts are set plumb or at correct angle and are aligned and at correct height and spacing. Hold posts in position during placement and finishing operations until concrete is sufficiently cured.
- E. Posts Set into Voids in Concrete: Form or core-drill holes for installing posts in concrete to depth recommended in writing by manufacturer of site furnishings and 3/4 inch larger than OD of post. Clean holes of loose material, insert posts, and fill annular space between post and concrete with non-shrink, nonmetallic grout mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

**City of Warwick**  
**Oakland Beach Playground, Splashpad &**  
**Stormwater Improvements**  
**Construction Documents**  
**June 2023**  
**RFP/BID #: 2024-091**

- F. Pipe Sleeves: Use steel pipe sleeves preset and anchored into concrete for installing posts. After posts have been inserted into sleeves, fill annular space between post and sleeve with non-shrink, nonmetallic grout, mixed and placed to comply with anchoring material manufacturer's written instructions, with top smoothed and shaped to shed water.

**3.3 BASIS OF PAYMENT**

- A. As directed by the City of Warwick, Rhode Island.

**END OF SECTION 32 33 00**

## **OVERHEAD SPLASH STRUCTURE - 323301**

**DESCRIPTION.** Work under this item includes providing and installing the Overhead Splash structure on concrete footings. Work under this item also includes attaching the overhead structure to the footing as well as installation of the splash/spray heads in the structure as well as any related plumbing work.

The basis of design for Overhead Splash Structure is the following:

The Steel Yard  
27 Sims Avenue  
Providence, Rhode Island 02909

**MATERIALS.** Overhead structure to be constructed out of steel. All components to be hot dip galvanized. Overhead ring to be painted blue. Owner to pick final color from manufacturers full color line. Contractor to submit shop drawings and samples of all materials used for this construction.

Threaded rods, nuts, and washers shall conform to the requirements of ASTM F3125 Grade A325.

**CONSTRUCTION METHODS.** Overhead Splash structure shall be installed in accordance with the manufacturer's recommendations or as directed by the engineer.

**BASIS OF PAYMENT.** The accepted Overhead Structure will be paid for at the contract unit price as a lump sum as listed in the proposal. The price so-stated constitutes full and complete compensation for all labor, materials, tools, and equipment, and all incidentals required to finish this work, complete and accepted by the engineer.

## **OVERHEAD SPLASH STRUCTURE SPRAY NOZZLES - 323302**

**DESCRIPTION.** Work under this item includes providing and installing the Overhead Splash Structure Spray Nozzles. It is anticipated that there will be one (1) nozzle placed on four (4) of the six (6) posts located at the splash pad. The two (2) posts closest to the public sidewalk will not have any nozzles placed in them. We anticipate there to be two (2) jet type nozzles and two (2) mist type nozzles. Final layout of nozzles to be determined through shop drawings with owner. Work under this item also includes any related plumbing work.

The basis of design for Overhead Splash Structure Spray Nozzles is the following:

My Splash Pad  
www.mysplashpad.net  
1-330-705-1802

**MATERIALS.** Spray Nozzles structure to be constructed out of stainless steel. Contractor to submit shop drawings and samples of all materials used for this construction.

**CONSTRUCTION METHODS.** Overhead Splash Structure Spray Nozzles shall be installed in accordance with the manufacturer's recommendations or as directed by the engineer.

**BASIS OF PAYMENT.** The accepted Overhead Structure Spray Nozzles will be paid for as part of the Overhead Spray Structure lump sum contract pricing. The price so-stated constitutes full and complete compensation for all labor, materials, tools, and equipment, and all incidentals required to finish this work, complete and accepted by the engineer.

## **PLANTING SOILS - 329100**

### **PART 1 - GENERAL**

#### **1.1 RELATED DOCUMENTS**

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

#### **1.2 SUMMARY**

- A. General: This Section includes:
  - 1. Planting Soils
  - 2. Vegetated Swale Soils
  - 3. Soil Amendments
  - 4. Inspection and Testing of Existing Soils
  - 5. Preparation of Soil Mixes
  - 6. Soil Installation
- B. Related Sections: The following Sections contain requirements that relate to this Section:
  - 1. Section 01 00 00 "General Requirements"
  - 2. Section 31 20 00 "Earth Moving"
  - 3. Section 32 92 00 "Turf and Grasses"

#### **1.3 DEFINITIONS**

- A. Topsoil: Top layer of the soil profile consisting of existing native surface topsoil or existing in-place surface soil and is the zone where plant roots grow. Its appearance is generally friable, pervious, and black or a darker shade of brown, gray, or red than underlying subsoil; reasonably free of subsoil, clay lumps, gravel, and other objects more than 2 inches in diameter; and free of subsoil and weeds, roots, toxic materials, or other non-soil materials.
- B. Manufactured Soil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- C. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture conforming to the physical requirements and installed in the manner set forth in this manual.

#### **1.4 SUBMITTALS**

- A. Product Data:
  - 1. Fertilizers, Pesticides, and Herbicides: Contractor to provide product label and manufacturer's application instructions for each product used.
  - 2. Landscape Fabrics: Contractor to provide product label and manufacturer's application instructions.
- B. Samples for Verification:
  - 1. Manufactured Soil: Provide Min. 2 Quart sample for verification as well as testing results indicating particle size nutrient analysis, organic content, and pH in conformance with product descriptions in PART 2.

2. Amended On-site Planting Soil: Provide Min. 2 Quart sample for verification as well as testing results indicating particle size nutrient analysis, organic content, and pH in conformance with product descriptions in PART 2.
- C. Sources for Soil Components and Planting Soil Mixes: Submit information identifying sources for all soil components and the contractor responsible for mixing of planting soil mixes.
  1. Owner or Landscape Landscape Architect/Engineer shall have the right to reject any soil supplier.
  2. Soil mix supplier shall have a minimum of five years' experience at supplying custom planting soil mixes.
  3. Submit supplier name, address, telephone and fax numbers and contact name.
  4. Submit certification that accepted supplier is able to provide sufficient quantities of materials and mixes for the entire project. Indicate quantity and type of material from each.
- D. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of planting soil during a calendar year.
- E. Warranty: Sample of special warranty.

#### **1.5 TESTING**

Soils Testing Laboratory  
Horticulture Storage Building  
University of Connecticut  
2019 Hillside Road  
Storrs, CT 06269

Substitute laboratory may be used only if testing agency demonstrates to Engineers/Owner's satisfaction, based on evaluation of agency-submitted criteria conforming to ASTM E 699, that it has the experience and capability to satisfactorily conduct the testing indicated without delaying the Work.

#### **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Store and handle packaged materials in strict compliance with manufacturer's instructions and recommendations. Protect all materials from weather, damage, injury and theft.
- B. Soil that is to be stockpiled longer than two weeks, whether on or off site, shall not be placed in mounds greater than six feet high. If soil stockpiles greater than six feet high are to be stored for more than two weeks, the contractor shall break down and disperse soil so that mounds do not exceed the six-foot height restriction or thoroughly mix the stockpile once a month.
- C. Immediately separate and dispose soil materials unsuitable as planting soil from stockpiled materials
- D. Keep the topsoil covered if the construction is taking place during precipitation events to keep the stockpiled soil at moisture contents below optimum compactive moisture.

### **PART 2 - PRODUCTS**

General: Approved on site soil material shall be used stockpiled, amended, protected, and installed prior to installation. If on-site sources prove insufficient or inadequate, provide manufactured soil. On-site soil material shall only be taken from areas identified on the plans as being disturbed.

#### **2.1 AMENDED ON-SITE PLANTING SOIL**

- A. Remove all organic and coarse (rocks) fragments over 1 inch in diameter in the engineered topsoil. Remove large stones (>4"), construction debris, and other root inhibiting materials from the surface of the subgrade that would affect the engineered planting soil.



- B. Test stockpiled material and remove detrimental materials and/or provide amendments as needed to achieve the required characteristics:
- Sandy Loam or loam type soil as established by the United States Department of Agriculture Classification System Based upon the proportion of sand, silt, and clay size particles.
  - Penetration resistance of engineered topsoil < 150 lbs/in<sup>2</sup>.
  - < 10% rock fragment content, pH of 5.5 - 7.0, Organic matter 4 – 12%, well draining.

**2.2 MANUFACTURED SOIL**

- A. Approved Manufacturer
- B. Sterilize stockpiled soil in one of two methods:
1. Heat stockpiled soil to above 150 degrees F;
  2. Apply pre-emergent weed seed killer or allow weeds to start germinating, then apply Roundup.
- C. Samples of individual components of soil mixes in addition to blended mixes shall be submitted by the Contractor for testing and analysis to the approved testing laboratory.
1. No base component material or soil components for plant mixes shall be used until certified test reports by an approved agricultural chemist have been received and approved by the Landscape Landscape Architect/Engineer.
  2. As necessary, make any and all soil mix amendments and resubmit test reports indicating amendments until approved.
- D. The Engineer may request additional testing by the Contractor for confirmation of mix quality and/or soil mix amendments at any time until completion.
- E. Potential Material Suppliers: The Contractor shall submit a list of potential soil component suppliers.
1. Labeling is recommended unless an expert is available to identify material. Copy this paragraph and re-edit for labeling different types of plants if required.
  2. In the event that any of the above materials are not available from suppliers or are not in compliance with specifications herein, the Contractor shall obtain material from other suppliers and conduct tests specified herein to provide materials in compliance with these specifications. If the cited suppliers cannot provide the specified material no additional compensation shall be paid to the contractor.
- F. Characteristics: Sandy loam amended with organic matter. A sandy loam modified with organic component to have at least 4% organic matter but not more than 10% organic matter, dry weight basis, compacted infiltration rate of 2.5 cm/hour, pH range of 5.5 to 7.0, and no coarse fragments over 2.5 cm in size. Particle size distribution shall be:

**Soil Layer Particle Size Distribution**

<i><b>Particle Size Class</b></i>	<i><b>Passing Sieve No</b></i>	<i><b>Range in Percent Passing ASTM F 1632-03</b></i>
fine gravel	10	100
very coarse sand	18	90 – 100
coarse sand	35	70 – 85
medium sand	60	44 – 60
fine sand	140	25 – 35
very fine sand	300	18 – 25

silt*		12 – 18
clay*		5 – 12
<b>Organic Matter</b>		<b>Percent Range by weight</b> ASTM F 1647-02a
OM%		4 - 12

\*determined by hydrometer method in ASTM F1632-03.

**2.3 SOIL AMENDMENTS**

- A. Compost: The organic material may be "Allgro" brewer's waste, composted sewage sludge without excessive content of woodchips, or aged composted mushroom substrate or livestock manures are also acceptable. Composted municipal waste (chipped, shredded and screened wood, leaves, bark, etc.) alone is not acceptable unless it meets all of the criteria as follows:
  - 1. *Carbon/nitrogen ratio.* This ratio shall be between 11/1 to 22/1
  - 2. *Degree of maturity.* Maturity shall be between Grades IV and V, "curing compost" and "very stable compost" as measured in a colorimetric-based maturity test. The compost shall be considered "stable" and not subject to continuing biologic or chemical processes.
  - 3. *Odor.* The composted material shall not produce any unpleasant residual odor such as hydrogen sulfide, ammonia, or others.
  - 4. *Mineral/organic content and fineness (particle size).* The organic material shall contain at least 40% organic matter (dry basis) and shall have 100% passing a 1/2-inch or smaller screen. Debris particles such as metal, glass, plastic, wood, asphalt or masonry shall not exceed 10mm in size, and shall not total more than 2 % dry weight.
  - 5. *Reaction (pH).* The pH shall be within the range of 5.5 to 8.0. (CaCl method).
  - 6. *Salinity.* Total salinity shall not exceed 2 grams of salt per liter (expressed as sodium chloride,NaCl).
  - 7. *Nutrient contents.* The material shall contain some nitrogen, phosphorus, potassium, calcium, magnesium, sodium and micronutrients including iron, copper, boron, manganese, and molybdenum, so that heavy applications of fertilizer is not required to sustain plant growth. Also, the nutrients shall be present in appropriate agricultural and horticultural proportions to prevent ion antagonism.
  - 8. *Heavy metals.* Concentrations of zinc, mercury, cadmium, lead, nickel, chromium, and copper must be below EPA and State of Rhode Islands Department of Environmental Management standards for applications to soils with human activity.
- B. Leaf Compost: Fully matured (6-18 months), screened, ½%-1% nitrogen content by weight, free of deleterious materials, and uncomposted materials.
- C. Commercial Fertilizer: Having the following minimum guaranteed composition by weight: nitrogen 5% (50% organic), available Phosphoric Acid (P2O5) 10%, Soluble Potash (K2O) 5%, unless soil tests indicate need for different composition as determined by Engineer. Elements becoming available according to methods adopted by Association of Official Agricultural Chemists. By Agway or approved equivalent.

**2.4 SAND**

- A. Clean, washed, natural or manufactured, and free of toxic materials.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

- A. Examine areas to receive plants for compliance with requirements and conditions affecting installation and performance. The Contractor shall examine previous work, related work, and conditions under which this work is to be performed and shall notify the Owner in writing of all deficiencies and conditions detrimental to the proper completion of this work. Beginning work means the Contractor accepts substrates, previous work, and conditions. The Contractor shall not place any planting soil until all work in adjacent areas is complete and approved by the Landscape Architect/Engineer.
  - 1. Examine soil and remove foreign materials, stones over 1", and organic debris over 2" in length. Mix-in amendments as required by tests and as approved by the Owner's Representative. All preparation and mixing shall be accomplished when the soil moisture content is less than 10 percent by volume.
  - 2. Do not mix or place soils and soil amendments in frozen, wet, or muddy conditions.
  - 3. Suspend soil spreading, grading, and tilling operations during periods of excessive soil moisture until the moisture content reaches acceptable levels to attain the required results.
  - 4. Uniformly moisten excessively dry soil that is not workable and which is too dusty.
  - 5. Coordinate activities with other project contractors so that there is no soil disturbance from traffic or other construction activities subsequent to placement.
  - 6. All construction debris shall be removed from the planting areas prior to placement of the soil layers. Care shall be taken to avoid working the soil when it has 10 percent moisture content or above.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.
- C. If contamination by foreign or deleterious material or liquid is present in soil within a planting area, remove the soil and contamination as directed by Landscape Architect/Engineer and replace with new planting soil.

### **3.2 PREPARATION**

- A. Protect structures, utilities, sidewalks, pavements, and other facilities and turf areas and existing plants from damage caused by planting operations.
- B. Install erosion-control measures to prevent erosion or displacement of soils and discharge of soil-bearing water runoff or airborne dust to adjacent properties and walkways.

### **3.3 EXCAVATION AND SCARIFICATION**

- A. Loosen subgrade of planting areas to a minimum depth that will allow the placement of planting soil layers according to the details.
- B. Subgrade for planting areas shall be accomplished using approved materials and compacted to standard subgrade compaction ranges.
- C. After the specified engineering compaction for all subgrades is accomplished and the trees are planted within scarified pits, scarify the compacted surface of the subgrade following final rough grade to a depth of 4 to 6 inches prior to the planting soil placement. The subgrade shall have a permeability of not less than 0.5 inches/hour. Determine permeability of the subgrade using a single ring infiltrometer method after it has been scarified. If infiltration of the subgrade is below 0.5 in/hr, scarify perpendicular to previous scarification to a depth of 6 to 8 inches and retest for infiltration.
- D. After approval of the subgrade, placement of the planting soil can begin following procedures outlined in Part 3.5 of this Section.

### **3.4 MIXING OF PLANTING SOIL**

- A. The planting soil shall be mixed in a ball mill or tub mill fitted with proper screening and paddles. Windrowing the materials is not acceptable, as it does not produce uniform mixing of the components.
- B. Mixing of the compost shall be accomplished in the same manner as the other mixing procedures. The compost shall be moist, but not overly wet so as water can be squeezed out by hand or so dry as to be easily blown by wind.

**3.6 PLACEMENT OF PLANTING SOIL**

- A. Verify the following:
  - 1. Verify that the under drainage systems have been installed and accepted if applicable.
  - 2. Verify that the subgrade passes the minimum water infiltration requirement.
  - 3. Determine that the subgrade is free of debris.
  - 4. Verify that the subgrade meets a soil density requirement of 95 percent of peak density and is the proper depth.
  - 5. Verify that the planting soil mix has below 10 percent moisture at least two days prior to soil placement.
  - 6. Notify the Owner of soil placement operations at least ten calendar days prior to the beginning of work.
- B. Preparation and Placement:
  - 1. Scarify the subgrade and test the subgrade's infiltration rate.
  - 2. Place the planting soil in 6" lifts. Compaction of this lift shall consist of light tamping by the installers foot traffic. No mechanical compaction shall be allowed.
  - 3. Compaction of the Planting Soil areas is not allowed.
  - 6. Reducing the amount of compaction to the soils can be accomplished by beginning the work in corners, against walls, or at the center of isolated beds, and progressing out-wards. This limits the amount of traffic needed for installation on the placed soil.
  - 7. Planting soils shall never be moved or worked when wet or frozen.
  - 8. The Contractor shall place barricades as required to prevent any unnecessary compaction of planting soil from vehicles, equipment, or pedestrian traffic.
  - 9. Excavation for tree pits shall be such that care is taken not to damage surrounding pavements.
    - a. The depth of the excavation shall be according to the details. Compact only the very bottom of the excavation with a hand tamper to form a dense pedestal of at least 95 percent of peak density to support the tree rootball as shown on the details. Tree planting pits' shape and size shall be according to the details.
    - b. The root flair of the tree shall be set to the level shown on the Drawings.
    - c. Subgrade material removed to accommodate tree pit depth shall be removed from the area and NOT incorporated in the planting soil profile.

**3.6 SITE INSPECTION**

- A. Prior to beginning the fine grading work, the Contractor shall inspect the site rough grading to ensure its accuracy. Beginning the fine grading work means that the Contractor accepts the rough grading.

**3.7 PREPARATION**

- A. The Contractor shall establish lines and levels, locate and lay out by instrumentation and similar appropriate means, all planting area finish grades.
- B. The contractor shall provide additional stakes and string lines as required to achieve smooth finish grades with positive surface drainage.

**3.8 TOLERANCES**

- A. The Contractor shall be required to fine grade all planting areas to within 1/5 foot (.05 foot) of finish grades indicated on the Grading Plans and/or finish grades accepted by the Owner's Representative.
- B. Proper allowances shall be made for settlement, spoils from plant pits, and addition of soil amendments.
- C. A Pre-seeding survey as built of the field area shall be performed by a Rhode Island licensed surveyor at a grid spacing of spot elevations every 10 feet on center on the entire field surface to verify proper grading of the field of play. This shall be reviewed by the owner's representative prior to seeding of the field.

**3.9 FINISH GRADING OPERATIONS**

- A. Generally, grade with uniform slope between points where elevations are given or between such points and existing grades.
- B. Slope finish grades to drain surface water away from buildings, walks, paving, and other structures unless otherwise noted. Slope finish grades to drain surface water to drain inlets as shown on the Drawings.
- C. Grade sculptural landform surfaces to achieve the continuity shown on the Drawings and as directed by the Owner's Representative.
- D. Inducing Settlement and Melting Clumps.
  - 1. Apply water as required to induce settlement and melt remaining soil clumps;
  - 2. When adequately dry, re-grade or re-screed smooth, adding additional planting soil as required.
- E. Use equipment of appropriate size and type to achieve the sculptural forms' profiles, and degree of smoothness required by the Engineer.
- F. Fill and compact any depressions and remove all loose material to finish surface true to line and grade, presenting a smooth, compacted, and unyielding surface.
- G. Compact planting areas to specified compaction.
- H. Areas which become compacted to a degree greater than that specified shall be ripped to the depth of the planting soil, rototilled, and bladed smooth.
- I. Settlement that occurs within the warranty period shall be corrected at no cost to the Owner.

**3.10 PROTECTION, REPAIRS AND CLEANUP**

- A. Protect newly graded areas from traffic, freezing and erosion. Keep free of trash, debris or construction materials.
- B. Within the installation warranty period repair and re-establish grades to specified tolerances where completed or partially completed surfaces become eroded, rutted, settled, or compacted due to subsequent construction operations or weather conditions.
  - 1. Scarify or remove and replace material to a depth as directed by the Owner; reshape and re-compact by only hand tamping at the prescribed moisture content.
- C. During soil preparation, keep adjacent paving and construction clean and work area in an orderly condition.

**3.11 DISPOSAL**

- A. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

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- B. Remove surplus soil and waste material including excess subsoil, unsuitable soil, trash, and debris and legally dispose of them off Owner's property.

**3.12 BASIS OF PAYMENT**

- A. Payment for Planting Soils will be made as a lump sum.

END OF SECTION 32 91 00

## TURFS AND GRASSES - 329200

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
1. Hydroseeding.
  2. Erosion-control material(s).
- B. Related Sections:
1. 31 10 00 "Site Clearing"
  2. 31 20 00 "Earth Moving"
  3. 33 41 00 "Storm Utility Drainage Piping"

#### 1.3 DEFINITIONS

- A. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
- B. Finish Grade: Elevation of finished surface of planting soil.
- C. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- D. Pesticide: A substance or mixture intended for preventing, destroying, repelling, or mitigating a pest. This includes insecticides, miticides, herbicides, fungicides, rodenticides, and molluscicides. It also includes substances or mixtures intended for use as a plant regulator, defoliant, or desiccant.
- E. Pests: Living organisms that occur where they are not desired or that cause damage to plants, animals, or people. These include insects, mites, grubs, mollusks (snails and slugs), rodents (gophers, moles, and mice), unwanted plants (weeds), fungi, bacteria, and viruses.
- F. Planting Soil: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- G. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or top surface of a fill or backfill before planting soil is placed.
- H. Subsoil: All soil beneath the topsoil layer of the soil profile and typified by the lack of organic matter and soil organisms.
- I. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil, but in disturbed areas such as urban environments, the surface soil can be subsoil.

**1.4 SUBMITTALS**

- A. Product Data: For each type of product indicated.
  - 1. Pesticides and Herbicides: Include product label and manufacturer's application instructions specific to this Project.
- B. Certification of Grass Seed: From seed vendor for each grass-seed monostand or mixture stating the botanical and common name, percentage by weight of each species and variety, and percentage of purity, germination, and weed seed. Include the year of production and date of packaging.
- C. Qualification Data: For qualified landscape Installer.
- D. Product Certificates: For soil amendments and fertilizers, from manufacturer.
- E. Material Test Reports: For existing native surface topsoil and imported or manufactured topsoil.
- F. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of turf during a calendar year. Submit before expiration of required initial maintenance periods.

**1.5 QUALITY ASSURANCE**

- A. Installer Qualifications: A qualified landscape Installer whose work has resulted in successful turf establishment.
  - 1. Professional Membership: Installer shall be a member in good standing of either the Professional Landcare Network or the American Nursery and Landscape Association.
  - 2. Experience: Five years' experience in natural turf field installation (provide references of completed projects in last 5 years) in addition to requirements in Division 01 Section "Quality Requirements."
  - 3. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project site when work is in progress.
  - 4. Maintenance Proximity: Not more than one hour normal travel time from Installer's place of business to Project site.
  - 5. Pesticide Applicator: State licensed, commercial.
- B. Soil-Testing Laboratory Qualifications: An independent laboratory or university laboratory, recognized by the State Department of Agriculture, with the experience and capability to conduct the testing indicated and that specializes in types of tests to be performed.
- C. Soil Analysis: For each unamended soil type, furnish soil analysis and a written report by a qualified soil-testing laboratory stating percentages of organic matter; gradation of sand, silt, and clay content; cation exchange capacity; deleterious material; pH; and mineral and plant-nutrient content of the soil.
  - 1. Testing methods and written recommendations shall comply with USDA's Handbook No. 60.
  - 2. The soil-testing laboratory shall oversee soil sampling, with depth, location, and number of samples to be taken per instructions from Landscape Architect/Engineer. A minimum of two representative samples shall be taken from varied locations for each soil to be used or amended for planting purposes.
  - 3. Report suitability of tested soil for turf growth.
    - a. Based on the test results, state recommendations for soil treatments and soil amendments to be incorporated. State recommendations in weight per 1000 sq. ft. or volume per cu. yd. for nitrogen, phosphorus, and potash nutrients and soil amendments to be added to produce satisfactory planting soil suitable for healthy, viable plants.



- b. Report presence of problem salts, minerals, or heavy metals, including aluminum, arsenic, barium, cadmium, chromium, cobalt, lead, lithium, and vanadium. If such problem materials are present, provide additional recommendations for corrective action.

- D. Preinstallation Conference: Conduct conference at Project site.

#### **1.6 DELIVERY, STORAGE, AND HANDLING**

- A. Seed and Other Packaged Materials: Deliver packaged materials in original, unopened containers showing weight, certified analysis, name and address of manufacturer, and indication of conformance with state and federal laws, as applicable.
- B. Bulk Materials:
  - 1. Do not dump or store bulk materials near structures, utilities, walkways and pavements, or on existing turf areas or plants.
  - 2. Provide erosion-control measures to prevent erosion or displacement of bulk materials, discharge of soil-bearing water runoff, and airborne dust reaching adjacent properties, water conveyance systems, or walkways.
  - 3. Accompany each delivery of bulk fertilizers, lime, and soil amendments with appropriate certificates.

#### **1.7 PROJECT CONDITIONS**

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

#### **1.8 MAINTENANCE SERVICE**

- A. Initial Turf Maintenance Service: Provide full maintenance by skilled employees of landscape Installer. Maintain as required in Part 3. Begin maintenance immediately after each area is planted and continue until acceptable turf is established but for not less than the following periods:
  - 1. Seeded Turf: 90 days from date of Substantial Completion.
    - a. When initial maintenance period has not elapsed before end of planting season, or if turf is not fully established, continue maintenance during next planting season. If area is planted in Fall, warranty shall be extended into Spring.
- B. Continuing Maintenance Proposal: From Installer to Owner, in the form of a standard yearly (or other period) maintenance agreement, starting on date initial maintenance service is concluded. State services, obligations, conditions, and terms for agreement period and for future renewal options.

### **PART 2 - PRODUCTS**

#### **2.1 SEED**

- A. Seed: Fresh, clean, dry, new-crop seed complying with AOSA's "Journal of Seed Technology; Rules for Testing Seeds" for purity and germination tolerances.

- B. Seed Species: State-certified seed of grass species as follows:
- C. Seed Species: Seed species as follows, with not less than 95 percent germination, not less than 85 percent pure seed, and not more than 0.5 percent weed seed:
  - 1. Grass Seed-proportioned by weight as follows:
    - a. 60% Kentucky Bluegrass (Blend of 3 improved hybrids).
    - b. 25% Fine leaf or Creeping Fescue (Blend of 3 improved hybrids).
    - c. 15% Perennial RyeGrass (Blend of 3 improved hybrids).
  - 2. Detention Basin Restoration Mix as follows:
    - a. "New England Erosion Control/Restoration Mix for Detention Basin and Moist Sites" by New England Wetland Plants inc. or approved equal
    - b. Seed Mix Species: as indicated in manufacturers specifications.
    - c. Application Rate: 35 lbs/acre: 1,250 sq ft per pound

## **2.2 INORGANIC SOIL AMENDMENTS**

- A. Lime: ASTM C 602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent and as follows:
  - 1. Class: T, with a minimum of 99 percent passing through No. 8 sieve and a minimum of 75 percent passing through No. 60 sieve.
  - 2. Provide lime in form of ground dolomitic limestone.
- B. Sulfur: Granular, biodegradable, containing a minimum of 90 percent sulfur, and with a minimum of 99 percent passing through No. 6 sieve and a maximum of 10 percent passing through No. 40 sieve.
- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Aluminum Sulfate: Commercial grade, unadulterated.
- E. Perlite: Horticultural perlite, soil amendment grade.
- F. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 sieve.
- G. Sand: Clean, washed, natural or manufactured, and free of toxic materials.
- H. Diatomaceous Earth: Calcined, 90 percent silica, with approximately 140 percent water absorption capacity by weight.
- I. Zeolites: Mineral clinoptilolite with at least 60 percent water absorption by weight.

## **2.3 ORGANIC SOIL AMENDMENTS**

- A. Compost: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 3/4-inch sieve; soluble salt content of 5 to 10 decisiemens/m; not exceeding 0.5 percent inert contaminants and free of substances toxic to plantings; and as follows:
  - 1. Organic Matter Content: 50 to 60 percent of dry weight.
  - 2. Feedstock: Agricultural, food, or industrial residuals; biosolids; yard trimmings; or source-separated or compostable mixed solid waste.
- B. Sphagnum Peat: Partially decomposed sphagnum peat moss, finely divided or of granular texture, with a pH range of 3.4 to 4.8.

- C. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, and material harmful to plant growth.

#### **2.4 FERTILIZERS**

- A. Bonemeal: Commercial, raw or steamed, finely ground; a minimum of 4 percent nitrogen and 20 percent phosphoric acid.
- B. Superphosphate: Commercial, phosphate mixture, soluble; a minimum of 20 percent available phosphoric acid.
- C. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde, phosphorous, and potassium in the following composition:
  - 1. Composition: 1 lb/1000 sq. ft. of actual nitrogen, 4 percent phosphorous, and 2 percent potassium, by weight.
  - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.
- D. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium in the following composition:
  - 1. Composition: 20 percent nitrogen, 10 percent phosphorous, and 10 percent potassium, by weight.
  - 2. Composition: Nitrogen, phosphorous, and potassium in amounts recommended in soil reports from a qualified soil-testing laboratory.

#### **2.5 PLANTING SOILS**

- A. Planting Soil: ASTM D 5268 topsoil, with pH range of 6 to 7, a minimum of 6 percent organic material content; free of stones 1 inch or larger in any dimension and other extraneous materials harmful to plant growth. On site topsoil to be reused shall be screened.

#### **2.6 MULCHES**

- A. Straw Mulch: Provide air-dry, clean, mildew- and seed-free, salt hay or threshed straw of wheat, rye, oats, or barley.
- B. Fiber Mulch: Biodegradable, dyed-wood, cellulose-fiber mulch; nontoxic and free of plant-growth or germination inhibitors; with a maximum moisture content of 15 percent and a pH range of 4.5 to 6.5.
- C. Nonasphaltic Tackifier: Colloidal tackifier recommended by fiber-mulch manufacturer for slurry application; nontoxic and free of plant-growth or germination inhibitors.

#### **2.7 PESTICIDES**

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

**2.8 EROSION-CONTROL MATERIALS**

- A. Erosion-Control Blankets: Biodegradable wood excelsior, straw, or coconut-fiber mat enclosed in a photodegradable plastic mesh. Include manufacturer's recommended steel wire staples, 6 inches long.

**PART 3 - EXECUTION**

**3.1 EXAMINATION**

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

**3.2 PREPARATION**

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

**3.3 TURF AND SEED AREA PREPARATION**

- A. Limit turf subgrade preparation to areas to be planted.
- B. Newly Graded Subgrades: Loosen subgrade to a minimum depth of 6 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
1. Apply superphosphate fertilizer directly to subgrade before loosening.
  2. Spread topsoil, apply soil amendments and fertilizer on surface, and thoroughly blend planting soil.
    - a. Delay mixing fertilizer with planting soil if planting will not proceed within a few days.
    - b. Mix lime with dry soil before mixing fertilizer.
  3. Spread planting soil to a depth of 6 inches but not less than required to meet finish grades after light rolling and natural settlement. Do not spread if planting soil or subgrade is frozen, muddy, or excessively wet.
    - a. Spread approximately 1/2 the thickness of planting soil over loosened subgrade. Mix thoroughly into top 2 inches of subgrade. Spread remainder of planting soil.

- C. Unchanged Subgrades: If turf is to be planted in areas unaltered or undisturbed by excavating, grading, or surface-soil stripping operations, prepare surface soil as follows:
  - 1. Remove existing grass, vegetation, and turf. Do not mix into surface soil.
  - 2. Loosen surface soil to a depth of at least 6 inches. Apply soil amendments and fertilizers according to planting soil mix proportions and mix thoroughly into top 4 inches of soil. Till soil to a homogeneous mixture of fine texture.
    - a. Apply superphosphate fertilizer directly to surface soil before loosening.
  - 3. Remove stones larger than 1 inch in any dimension and sticks, roots, trash, and other extraneous matter.
  - 4. Legally dispose of waste material, including grass, vegetation, and turf, off Owner's property.
- D. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Grade to within plus or minus 1/2 inch of finish elevation. Roll and rake, remove ridges, and fill depressions to meet finish grades. Limit finish grading to areas that can be planted in the immediate future.
- E. Moisten prepared area before planting if soil is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.
- F. Before planting, obtain Landscape Architect/Engineer's acceptance of finish grading; restore planting areas if eroded or otherwise disturbed after finish grading.

### 3.4 PREPARATION FOR EROSION-CONTROL MATERIALS

- A. Prepare area as specified in "Turf Area Preparation" Article.
- B. For erosion-control mats, install planting soil in two lifts, with second lift equal to thickness of erosion-control mats. Install erosion-control mat and fasten as recommended by material manufacturer.
- C. Fill cells of erosion-control mat with planting soil and compact before planting.
- D. For erosion-control blanket or mesh, install from top of slope, working downward, and as recommended by material manufacturer for site conditions. Fasten as recommended by material manufacturer.
- E. Moisten prepared area before planting if surface is dry. Water thoroughly and allow surface to dry before planting. Do not create muddy soil.

### 3.5 HYDROSEEDING

- A. Hydroseeding: Mix specified seed, fertilizer, and fiber mulch in water, using equipment specifically designed for hydroseed application. Continue mixing until uniformly blended into homogeneous slurry suitable for hydraulic application.
  - 1. Mix slurry with fiber-mulch manufacturer's recommended tackifier.
  - 2. Apply slurry uniformly to all areas to be seeded in a one-step process. Apply slurry at a rate so that mulch component is deposited at not less than 1500-lb/acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate.
  - 3. Apply slurry uniformly to all areas to be seeded in a two-step process. Apply first slurry coat at a rate so that mulch component is deposited at not less than 500-lb/acre dry weight, and seed component is deposited at not less than the specified seed-sowing rate. Apply slurry cover coat of fiber mulch (hydromulching) at a rate of 1000 lb/acre.

**3.6 TURF RENOVATION**

- A. Renovate existing turf.
- B. Renovate existing turf damaged by Contractor's operations, such as storage of materials or equipment and movement of vehicles.
  - 1. Reestablish turf where settlement or washouts occur or where minor regrading is required.
  - 2. Install new planting soil as required.
- C. Remove sod and vegetation from diseased or unsatisfactory turf areas; do not bury in soil.
- D. Remove topsoil containing foreign materials such as oil drippings, fuel spills, stones, gravel, and other construction materials resulting from Contractor's operations, and replace with new planting soil.
- E. Mow, dethatch, core aerate, and rake existing turf.
- F. Remove weeds before seeding. Where weeds are extensive, apply selective herbicides as required. Do not use pre-emergence herbicides.
- G. Remove waste and foreign materials, including weeds, soil cores, grass, vegetation, and turf, and legally dispose of them off Owner's property.
- H. Till stripped, bare, and compacted areas thoroughly to a soil depth of 6 inches.
- I. Apply soil amendments and initial fertilizers required for establishing new turf and mix thoroughly into top 4 inches of existing soil. Install new planting soil to fill low spots and meet finish grades.
- J. Apply seed and protect with straw mulch as required for new turf.
- K. Water newly planted areas and keep moist until new turf is established.

**3.7 TURF AND DETENTION BASIN MAINTENANCE**

- A. Maintain and establish seed by watering, fertilizing, weeding, mowing, trimming, replanting, and performing other operations as required to establish healthy, viable turf. Roll, regrade, and replant bare or eroded areas and remulch to produce a uniformly smooth turf. Provide materials and installation the same as those used in the original installation.
  - 1. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace materials and seed area damaged or lost in areas of subsidence.
  - 2. In areas where mulch has been disturbed by wind or maintenance operations, add new mulch and anchor as required to prevent displacement.
  - 3. Apply treatments as required to keep turf and soil free of pests and pathogens or disease. Use integrated pest management practices whenever possible to minimize the use of pesticides and reduce hazards.
- B. Watering: Install and maintain temporary piping, hoses, and turf-watering equipment to convey water from sources and to keep turf uniformly moist to a depth of 4 inches.
  - 1. Schedule watering to prevent wilting, puddling, erosion, and displacement of seed or mulch. Lay out temporary watering system to avoid walking over muddy or newly planted areas.
  - 2. Water turf with fine spray at a minimum rate of 1 inch per week unless rainfall precipitation is adequate.

- C. Mow turf as soon as top growth is tall enough to cut. Repeat mowing to maintain specified height without cutting more than 1/3 of grass height. Remove no more than 1/3 of grass-leaf growth in initial or subsequent mowings. Do not delay mowing until grass blades bend over and become matted. Do not mow when grass is wet. Schedule initial and subsequent mowings to maintain the following grass height:
  - 1. Mow to a height of 2-1/2 to 3 inches.
- D. Detention basin mix maintenance and mowing frequency and height per manufacturers recommendations.
- E. Turf Postfertilization: Apply fertilizer after initial mowing and when grass is dry.
  - 1. Use fertilizer that will provide actual nitrogen of at least 1 lb/1000 sq. ft. to turf area.

### **3.8 SATISFACTORY TURF**

- A. Turf installations shall meet the following criteria as determined by Landscape Architect/Engineer:
  - 1. Satisfactory Seeded Turf: At end of maintenance period, a healthy, uniform, close stand of grass has been established, free of weeds and surface irregularities, with coverage exceeding 90 percent over any 10 sq. ft. and bare spots not exceeding 5 by 5 inches.
- B. Use specified materials to reestablish turf that does not comply with requirements and continue maintenance until turf is satisfactory.

### **3.9 PESTICIDE APPLICATION**

- A. Apply pesticides and other chemical products and biological control agents in accordance with requirements of authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
- B. Post-Emergent Herbicides (Selective and Non-Selective): Apply only as necessary to treat already-germinated weeds and in accordance with manufacturer's written recommendations.

### **3.10 CLEANUP AND PROTECTION**

- A. Promptly remove soil and debris created by turf work from paved areas. Clean wheels of vehicles before leaving site to avoid tracking soil onto roads, walks, or other paved areas.
- B. Erect temporary fencing or barricades and warning signs as required to protect newly planted areas from traffic. Maintain fencing and barricades throughout initial maintenance period and remove after plantings are established.
- C. Remove nondegradable erosion-control measures after grass establishment period.

### **3.11 BASIS OF PAYMENT**

- A. Payment for Turfs and Grasses will be made as a lump sum.

END OF SECTION 32 92 00

## PLANTS - 329300

### PART 1 - GENERAL

#### 1.1 RELATED DOCUMENTS

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

#### 1.2 SUMMARY

- A. Section Includes:
1. The provision and installation of all plant materials and products specified, including all supervision, labor, equipment, and materials necessary to complete the project.
  2. General maintenance of stored and installed materials until Acceptance.
  3. Provision of Landscaping Warranty.
- B. Description of Work:
1. Provide all materials and equipment, and do all work required to transplant existing trees and shrubs, and to install new plants, as indicated on the Drawings and as specified.
- C. Related Sections:
1. Examine Contract Documents for requirements that affect work of this Section. Other Specification Sections that directly relate to work of this Section include, but are not limited to:
    - a. Section 015639 "Temporary Tree and Plant Protection"
    - b. Section 311000 "Site Clearing"
    - c. Section 312000 "Earth Moving"
    - d. Section 329200 "Turfs and Grasses"

#### 1.3 REFERENCES

- A. Comply with applicable requirements of the following standards. Where these standards conflict with other specified requirements, the most restrictive requirements shall govern.
1. American National Standards Institute, Inc. (ANSI):
    - Z60.1 American Standard for Nursery Stock - 2004  
(Sponsor: American Nursery & Landscape Association)
  2. American Society for Testing and Materials (ASTM):
    - C 136 Sieve Analysis of Fine and Coarse Aggregates
    - E 11 Wire-Cloth Sieves for Testing Purposes
  3. American Wood Preservers' Association (AWPA):
    - C2 Lumber, Timbers, Bridge Ties and Mine Ties –  
Preservative Treatment By Pressure Processes



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4. National Arborist Association, 3537 Stratford Rd., Wantagh, NY 11793 (NAA):  
  
Ref. 1      Transplanting of Trees and Shrubs in the Northeastern and North Central United States
5. Hortus Third, A Concise Dictionary of Plants Cultivated in the United States and Canada, Cornell University, L.H. Bailey Hortorium, MacMillian Publishing Co., New York, NY.
6. Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses, Michael A. Dirr, Stipes Publishing Company, Champaign, Illinois, 1975, Revised 1998.
7. "A Field Guide: Standards for Urban Forestry Data Collection." 2010. By the USDA Forest Service, ISA and the IUFRO (International Union of Forest Research Organizations).

**1.4      DEFINITIONS**

- A. Backfill: The earth used to replace or the act of replacing earth in an excavation.
- B. Compaction: A loss of soil aggregates; destroyed aeration pore spaces; crushed or collapsed pore spaces; and, undergone extensive resorting and packing of soil particles.
- C. Duff Layer: The surface layer of native topsoil that is composed of mostly decayed leaves, twigs, and detritus.
- D. Finish Grade: Elevation of finished surface of planting soil.
- E. Manufactured Topsoil: Soil produced off-site by homogeneously blending mineral soils or sand with stabilized organic soil amendments to produce topsoil or planting soil.
- F. Planting Media: Standardized topsoil; existing, native surface topsoil; existing, in-place surface soil; imported topsoil; or manufactured topsoil that is modified with soil amendments and perhaps fertilizers to produce a soil mixture best for plant growth.
- G. Root Flare: Also called "trunk flare." The area at the base of the plant's stem or trunk where the stem or trunk broadens to form roots; the area of transition between the root system and the stem or trunk.
- H. Subgrade: Surface or elevation of subsoil remaining after excavation is complete, or the top surface of a fill or backfill before planting soil is placed.
- I. Subsoil: All soil beneath the topsoil layer of the soil profile, and typified by the lack of organic matter and soil organisms.
- J. Surface Soil: Soil that is present at the top layer of the existing soil profile at the Project site. In undisturbed areas, the surface soil is typically topsoil; but in disturbed areas such as urban environments, the surface soil can be subsoil.

**1.5      SUBMITTALS**

- A. Product certificates: Labels from the manufacturer's container or manufacturer's cutsheets certifying that the product meets the specified requirements shall be submitted for the following materials:

Anti-desiccant  
Chemical Products

Erosion Control Fabric  
Fertilizers

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Filter Fabric	Root Control Barrier
Inorganic Soil Amendments	Structural Soil
Mycorrhizal Fungi	Weed Control Barrier
Organic Soil Amendments	

B. Test Reports: Test reports from an approved testing agency indicating compliance with the specifications shall be submitted for:

Compost	Planting Media
Manufactured soil	Topsoil
Manure	Any other materials designated by the Landscape Architect.
Mulch	
Planter Soil	

C. Samples* of the following:	Landscape edging w/ finish as specified
Mulch	Planting Media
Compost	Planter soil mix
	Root ball stabilization materials

\*Bulk materials in quantities sufficient to demonstrate range of color, texture, particle size, etc.

D. List of Plant Materials: Species to be installed, noting any discrepancies with Drawings. This list does NOT imply permission for substitutions unless approved in writing by Landscape Architect.

E. Maintenance Instructions: Recommended procedures to be established by Owner for maintenance of plants during a calendar year.

**1.6 QUALITY ASSURANCE**

A. Installer's Field Supervision: Require Installer to maintain an experienced full-time supervisor on Project Site when work is in progress.

B. Soil Analysis:

1. The Contractor shall engage an independent testing agency, experienced in the testing of agricultural soils and acceptable to the Landscape Architect, to perform the following tests and analyses:

<u>Material</u>	<u>Tests and Analysis Required</u>
Soils	Mechanical analysis of soil indicating the percent passing by weight of the following sieve sizes: 1 in., 1/2 in., No. 4, No. 10, No. 100, and No. 200. Determination of pH, organic content, and nutrient content. Recommendations shall be made by the testing agency as to the type and quantity of soil additives required to bring pH, organic content, and nutrient content to satisfactory levels for planting.

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Organic Amendments Determination of moisture absorption capacity, organic matter content, and pH.

2. Report presence of problem salts, minerals, or heavy metals; if present, provide additional recommendations for corrective action.
3. A Solvita test shall be performed to determine the maturity and stability of the compost.
4. Gradation of granular materials shall be determined in accordance with ASTM C 136. Sieves for determining material gradation shall be as described in ASTM E 11.

C. Soil Drainage:

1. Test drainage of adverse soils in three to five plant pit locations chosen by the Landscape Architect. Pits shall be excavated to a size suitable for a large tree, completely filled with water and observed to determine the length of time the soils take to completely drain. Landscape Architect shall then be notified of the time it takes for the pits to drain completely. Planting operations shall not proceed until Landscape Architect has reviewed drainage test results.

D. Plants:

1. The Contractor shall provide quality, size, genus, species, and variety of plants indicated, complying with applicable requirements in ANSI Z60.1.
2. The Contractor shall inspect all nursery materials to determine that the materials meet the requirements of this Section. Submit List of Plant Materials to be installed indicating discrepancies with Drawings. No changes or substitutions may be made without prior approval by the Landscape Architect, and municipal authority, if applicable.
3. When requested by the Landscape Architect, the Contractor shall submit the names and locations of nurseries proposed as sources of acceptable plant material.
4. Proposed materials shall be flagged at the nurseries by the Contractor prior to viewing by the Landscape Architect, when requested by the Landscape Architect.
5. When requested by the Landscape Architect, deliver photographs of plant material or representative samples of plants.
6. Schedule time with the Landscape Architect for viewing plant material at the source(s). Time spent at the nursery shall occur prior to the anticipated delivery time.
7. Viewing and/or sealing of plant materials by the Landscape Architect at the nursery does not preclude the Landscape Architect's right to reject material at the site of planting.
8. Identification of plant names shall be as listed in Hortus Third or M. Dirr's Manual of Woody Landscape Plants.
9. All plants shall be delivered to site with identifying tags that shall not be removed until Substantial Completion acceptance.

E. Owner's Inspection and Testing:

Work may be subject to inspection at any time by the Landscape Architect. The Owner reserves the right to engage an independent testing laboratory in accordance with requirements of Section 140000 – QUALITY CONTROL to analyze and test materials used in the construction of the work. Where directed by the

Landscape Architect, the testing laboratory will make material analyses and will report to the Landscape Architect whether materials conform to the requirements of this specification.

1. Cost of tests and material analyses made by the testing laboratory will be borne by the Owner when they indicate compliance with the specification and by the Contractor when they indicate non-compliance.
  2. Testing equipment will be provided by and tests performed by the testing laboratory. Upon request by the Landscape Architect or Owner, the Contractor shall provide such auxiliary personnel and services needed to accomplish the testing work and to repair damage caused thereto by the permanent work.
- F. Contractor's Inspection and Testing:
1. Testing, analyses, and inspection required by the Contractor for his own information or guidance shall be at his own expense.
  2. Materials shall not be used in construction until the test results have been reviewed by the Landscape Architect.

#### **1.7 DELIVERY, STORAGE, AND HANDLING**

- A. Do not prune trees and shrubs before delivery. Protect bark, branches, and root systems from sun scald, drying, wind burn, sweating, whipping, and other handling and tying damage.
- B. Digging Plant Material: Plants shall not be dug at the nursery or approved source until the Contractor is ready to transport them from their original locations to the site of the work or acceptable storage location.
- C. Handling of Plant Materials: Exercise care in handling plant materials to avoid damage or stress. Handle planting stock by root ball or container. Do not bend or bind-tie trees or shrubs in such a manner as to destroy their natural shape. Provide protective covering of plants during shipping and delivery. Do not drop plants during delivery and handling.
- D. Deliver bare-root stock plants freshly dug. Immediately after digging up bare-root stock, pack root system in wet straw, hay, or other suitable material to keep root system moist until planting.
- E. Deliver plants after preparations for planting have been completed, and install immediately.
- F. Plants that are not planted immediately shall be protected as follows:
  1. If planting is delayed more than six hours after delivery, set plants and trees in shade, protect from weather and mechanical damage, and keep roots moist. Plants shall not be allowed to dry out or freeze.
  2. Bareroot plants shall be installed on the same day of delivery or placed in storage until installed. Injury and desiccation of plants on-site shall be prevented.
  3. Earth balls shall be kept intact and moist.
  4. Store bulbs, corms, and tubers in a dry place at 60° to 65°F (16° to 18°C) until planting.
  5. Both the duration and method of storage of plant materials shall be subject to the approval of the Landscape Architect.
  6. Extended storage at site: Plants shall then be protected and kept moist by "heeling-in" the roots or by placing the plant in a cool moist storage building. The "heeling-in" procedure shall require the

plants to be separated and the roots heeled in a suitable moist soil. If plants are stored in a building, the roots shall be covered with suitable moist mulch.

- G. In certain situations, and depending on plant species, apply anti-desiccant to trees and shrubs as needed to protect plant material.
- H. The following shall be cause for rejection of materials by the Landscape Contractor or Landscape Architect:
  - 1. Evidence of inadequate protection following digging, carelessness while in transit, or improper handling or storage, shall be cause for rejection.
  - 2. Upon arrival at the temporary storage location or the site of the work, plants shall be inspected for proper shipping procedures. Should the roots be dried out, large branches be broken, balls of earth broken or loosened, or areas of bark be torn, the Landscape Architect will reject the injured plant.
  - 3. When a plant has been rejected, remove it from the area of the work and replace it with one of the required size and quality.

#### **1.8 PLANTING SEASONS AND CONDITIONS**

- A. Planting shall only be performed when weather and soil conditions are suitable for planting the material specified in accordance with locally accepted practice.
- B. No planting shall occur if said activity results in permanent compaction of soil.

#### **1.9 MAINTENANCE**

- A. Plant material shall be maintained by the Contractor until Substantial Completion, as described in Part 3 of this Section.
- B. Following Substantial Completion until the completion of the warranty period and Final Acceptance, maintenance of the plant material shall become the Owner's responsibility. Provide instructions and service as follows.
  - 1. The Contractor shall provide the Owner with written recommended maintenance program at time of Substantial Completion.
  - 2. The Contractor may make as many periodic inspections as necessary during the guarantee period, at no additional cost to the Owner, to inspect the condition of all plant materials. Submit written report of each inspection to the Landscape Architect and Owner outlining corrective measures required to keep the guarantee valid.

#### **1.10 ACCEPTANCE**

- A. The Landscape Architect will inspect all work for Substantial Completion upon written notice of completion. The request shall be received at least ten calendar days before the anticipated date of inspection.
- B. Acceptance of plant material by the Landscape Architect will be for general conformance to specified size, character, and quality, and shall not diminish responsibility for full conformance to the Contract Documents.
- C. Upon satisfactory completion and re-inspection of all repairs or renewals necessary in the judgment of the Landscape Architect, the Landscape Architect will recommend to the Owner that acceptance of the work of this Section be given.

- D. Acceptance in Part
  - 1. The work may be accepted in parts when it is deemed to be in the Owner's best interest to do so, and when permission is given to the Contractor in writing to complete the work in parts.
  - 2. Acceptance and use of such areas by the Owner shall not waive any other provisions of this Contract.

**1.11 WARRANTY**

- A. Plants shall be guaranteed for a period of one year after the date of Acceptance by the Owner and Landscape Architect.
  - 1. When the work is accepted in parts, the guarantee periods shall extend from each of the partial acceptances to the terminal date of the last guarantee period. Thus, all guarantee periods terminate at one time.
- B. Plants shall be healthy, free of pests and disease, and in flourishing condition at the end of the guarantee period. Plants shall be free of dead and dying branches and branch tips, and shall bear foliage of normal density, size, and color.
- C. Replace dead plants and all plants not in a vigorous, thriving condition, as determined by the Landscape Architect during and at the end of the guarantee period, without cost to the Owner, as soon as weather conditions permit and within the specified planting period.
  - 1. Replacements shall closely match adjacent specimens of the same species. Replacements shall be subject to all requirements stated in this Specification.
  - 2. Make all necessary repairs due to plant replacements. Such repairs shall be done at no extra cost to the Owner.
  - 3. The guarantee of all replacement plants shall extend for an additional one-year period from the date of their acceptance after replacement.
- D. Guarantee does not cover defects resulting from abuse, lack of adequate maintenance, or neglect by Owner, or incidents that are beyond Contractor's control.
- E. At the end of the guarantee period, and no less than five days prior to final inspection, staking and guying materials shall be removed from the site.

**1.12 FINAL INSPECTION AND FINAL ACCEPTANCE**

- A. At the end of the guarantee period, the Landscape Architect will, upon written notice of end of guarantee period, inspect the work for Final Acceptance. Request shall be received at least ten calendar days before the anticipated date for Final Inspection.
- B. Upon completion and re-inspection of full repairs or replacements necessary in the judgment of the Landscape Architect. At that time, the Landscape Architect will recommend to the Owner that Final Acceptance of the Work of this Section be given.

## PART 2 - PRODUCTS

### 2.1 PLANT MATERIAL

- A. Except as otherwise specified, form, size, and grade of plant materials shall conform to ANSI Z60.1.
- B. Furnish trees and shrubs with root balls measured from top of root ball, which shall begin at root flare according to ANSI Z60.1. Root flare shall be visible before planting. Plants shall have, at a minimum, an acceptable form typical of species.
- C. The Landscape Architect will be the final arbiter of plant form acceptability.
  - 1. Trunk(s), Canes and Branches:
    - a. Well-formed and sturdy with a straight, distinct leader where this is characteristic of species.
    - b. Branching plentiful and uniformly distributed to form a well-balanced plant.
    - c. Trees with leaders that are damaged, crooked, or crossed shall be rejected.
    - d. Trees with multiple leaders shall be rejected, unless form is typical for the species or specifically indicated in the Drawings.
    - e. Multiple leaders with narrow crotches (included bark) shall not be acceptable.
    - f. Scars shall be free of rot and not exceed 1/4 the diameter of the wood beneath in greatest dimension unless completely healed (except pruning scars).
    - g. Pruning scars clean cut leaving little or no protrusion from the trunk or branch.
    - h. Graft union completely healed.
    - i. No mechanical or pest damage.
    - j. No excessive succulence or suckering atypical of species.
  - 2. Foliage:
    - a. Densely supplied with healthy, vigorous leaves of normal size, shape, color, and texture (except shrubs moved bare-root or deciduous shrubs when dormant).
    - b. No chlorosis.
    - c. Minimally perceptible pest or mechanical damage, affecting no more than 5 percent of foliage.
  - 3. Root System:
    - a. Plants shall have a well-developed fibrous root system.
    - b. Sturdily established in container but shall not be excessively root bound except plants deliberately grown root bound to produce a dwarf plant.
    - c. No stem girdling roots.
    - d. No weeds.
- D. Plants shall be healthy and vigorous, free of disease, insect pests and their eggs and larvae.
- E. Plants shall be free of physical damage such as scrapes, broken or split branches, large scars, bark abrasions, sunscalds, fresh limb cuts, disfiguring knots, or other defects.
- F. Plants shall not be pruned for form (if needed to improve aesthetic appearance and/or growth habit) until Substantial Completion Acceptance.
- G. Plants shall meet the sizes indicated on the Plant List or Schedule. Plants larger or smaller than specified may be used only if accepted by the Landscape Architect.

- H. To the greatest extent practicable, plant material shall be obtained from sources located in similar climatic zones to the Project site.
- I. Plants indicated as "B&B" shall be balled and burlapped.
  - 1. Unless otherwise permitted by the Landscape Architect, plants shall be nursery grown.
  - 2. Nursery grown plants shall be freshly dug or heeled-in. No plants from cold storage will be accepted unless permitted by the Landscape Architect.
- J. Container stock, where specified or approved by Landscape Architect, shall meet the standards of ANSI Z60.1 and the following:
  - 1. Container stock shall have a heavy fibrous root system that has been developed by proper cultural treatment, transplanting, and root pruning.
  - 2. Container stock shall be sturdy, healthy and sufficiently vigorous to ensure plant growth.
- K. Herbaceous Plants: Including, but not limited to, annuals, biennials, perennials, wetland or water plants, bulbs, tubers, and corms: Provide healthy, disease-free plants of species and variety shown or listed, with well-established root systems or well-formed root forms. Provide only plants that are acclimated to outdoor conditions before delivery.
- L. Bareroot stock, where specified or approved by Landscape Architect, shall meet the standards of ANSI Z60.1 and the following:
  - 1. Bareroot stock shall have a heavy fibrous root system that has been developed by proper cultural treatment, transplanting, and root pruning.
  - 2. Bareroot stock shall be sturdy, healthy and sufficiently vigorous to ensure plant growth.

## **2.2 INORGANIC SOIL AMENDMENTS**

- A. Lime: ASTM C602, agricultural liming material containing a minimum of 80 percent calcium carbonate equivalent, by weight. Class T is more finely ground and quicker acting but dustier than Class O.
- B. Sulfur: Granular, biodegradable, and containing a minimum of 90 percent sulfur.
- C. Iron Sulfate: Granulated ferrous sulfate containing a minimum of 20 percent iron and 10 percent sulfur.
- D. Aluminum Sulfate: Commercial grade, unadulterated.
- E. Perlite: Horticultural perlite, soil amendment grade.
- F. Agricultural Gypsum: Minimum 90 percent calcium sulfate, finely ground with 90 percent passing through No. 50 (0.30-mm) sieve.
- G. Sand: Clean, washed, natural or manufactured angular grains, free of toxic materials.
- H. Diatomaceous Earth: Calcined, 90 percent silica, with approximately 140 percent water absorption capacity by weight.



**2.3 ORGANIC SOIL AMENDMENTS**

- A. Compost: Well-composted, stable, and substantially weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; soluble salt content of <3 mmhos/cm or <3 decisiemens/m and free of substances toxic to plantings; and as follows:
  - 1. The compost stock must mature for a minimum of 90 days. During this time, the compost stock shall achieve thermophilic temperatures (175° to 180°F, 79° to 82°C) for 15 days; multiple turnings may be required for the entire stockpile. A Solvita test may be requested to determine the maturity and stability of the compost.
  - 2. Frozen or muddy compost shall be unacceptable for use.
- B. Manure: Well-rotted, unleached, stable or cattle manure containing not more than 25 percent by volume of straw, sawdust, or other bedding materials; free of toxic substances, stones, sticks, soil, weed seed, debris, and material harmful to plant growth.
- C. Mycorrhizal Fungi: Dry, organic, granular root stimulant/inoculant containing at least 5300 spores per pound (0.45 kg) of vesicular-arbuscular mycorrhizal fungi and 95 million spores per pound (0.45 kg) of ectomycorrhizal fungi, 33 percent hydrogel, and a maximum of 5.5 percent inert material.
  - 1. Mycorrhizal fungi amendment shall be manufactured by one of the following, or approved equivalent:
    - a. Roots
    - b. Plant Health Care
    - c. Mycorrhizal Applications of Oregon
- D. Hydrogel: Shall be water absorbant crystals or granules manufactured by one of the following, or approved equal: Plant Health Care, Terra-Sorb, Viterra Gelscape.

**2.4 FERTILIZERS**

- A. Commercial Fertilizer: Commercial-grade complete fertilizer of neutral character, consisting of fast- and slow-release nitrogen, 50 percent derived from natural organic sources of urea formaldehyde. Nitrogen (N), Phosphorus (P) and Potassium (K) in amounts recommended in soil test results.
- B. Controlled-release fertilizer:
  - 1. Slow-Release Fertilizer: Granular or pelleted fertilizer consisting of 50 percent water-insoluble nitrogen, phosphorus, and potassium of equal proportions.
  - 2. Planting Tablets: Tightly compressed chip type, long-lasting, slow-release, commercial-grade planting fertilizer in tablet form. Tablets shall break down with soil bacteria, converting nutrients into a form that can be absorbed by plant roots. Nutrient composition: nitrogen, phosphorous, potassium and micronutrients.
  - 3. Controlled-release fertilizer shall be equal to the following:

<u>Product</u> Osmocote Agriform 20-10-5 Planting Tablets EZY-Grow Fertilizer Packet	<u>Manufacturer</u> Scotts Miracle-Gro Company Sierra Chemical Co. Milpitas, CA 95035 EZY-Grow - Landscape Specialties
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**2.5 PLANTING MEDIA**

A. Topsoil

1. Topsoil shall be obtained from a previously established stockpile on the site, to the extent that suitable material is available. Additional topsoil required shall be obtained from off-site sources.
2. Topsoil, whether stripped from site or supplied from off-site, shall be a sandy loam as defined by the USDA Soil Conservation Service, Soil Classification System, and shall have the following mechanical analysis:

<u>Textural Class</u>	<u>% of Total Weight</u>	<u>Average %</u>
Sand (0.05-2.0 mm dia. range)	45 to 75	60
Silt (0.002-0.05 mm dia. range)	15 to 35	25
Clay (less than 0.002 mm dia. range)	5 to 25	15

- a. 95 percent of topsoil shall pass a No. 8 (2.0 mm) sieve.
- b. Topsoil shall be free of stones >1 inch (25 mm) in longest dimension, earth clods or clay, plant parts, weeds, debris, and other extraneous materials harmful to plant growth.
- c. Organic matter content shall be 4 to 12 percent of total dry weight.
- d. Range of pH: 5.5 to 7.

B. Compost Manufactured Topsoil: Uniform mixture of compost and base soil to achieve the compost manufactured topsoil product consisting of the following ingredients:

1. Compost: An organic substance produced by the biological and biochemical decomposition of source separated organic materials that may include leaves and lawn trimmings, food or industrial residuals, and/or municipal biosolids. The product shall not contain levels of substances toxic to plants and shall be reasonably free (< 1 percent by dry weight) of man-made foreign matter. Compost shall meet USEPA 40 CFR Part 503 standards for Class A, Exceptional Quality compost, as well as all applicable state standards for its intended use.
2. Base soil: Topsoil and/or other soils (clay, silt, sand sand, sandy loam, or loamy sand in texture according to USDA soil classification. It shall be free of stones, clods, plant parts, weeds, and other debris >2 inches (50 mm) in any dimension. It shall not contain levels of substances that shall inhibit or be harmful to plant growth.
3. Product Parameters:

<b>Parameter</b>	<b>Compost</b>	<b>Base Soil</b>	<b>Compost Manufactured Topsoil</b>
pH	6.0-8.5	5.0-8.0	6.0-7.8
% Organic Matter	<40%	0-5%	6-20%
Particle Size	<1" (25 mm)	<2" (50 mm), USDA Class: sand, sandy loam, loamy sand	<2" (50 mm), USDA Class: sand, sandy loam, loamy sand
Salts/conductivity	Varies; must be reported	<2mmhos/cm after handling, placement & rainfall	<2mmhos/cm after handling, placement & rainfall
Carbon: Nitrogen Ratio	15-25:1	N/A	N/A

C. Plant bed media: Verify site conditions and suitability of native surface topsoil to produce viable planting soil. Modify and fertilize soil types to create acceptable planting media for specific site conditions, plant species, and proposed use in accordance with soil test reports. **<Select applicable options below>**

1. Plant bed media for largely unchanged site conditions, reusing on-site topsoil: Existing, native surface topsoil formed under natural conditions with the duff layer retained during excavation process and retained in-place or stockpiled on site. Supplement with standardized topsoil or imported topsoil if quantities are insufficient. Mix native topsoil with loose compost in the following quantities to produce plant bed media: Ratio of loose compost to topsoil by volume: 1:4 Ratio.
  2. Plant bed media using imported topsoil from off-site sources if existing surface soil is not of suitable quality or quantity. Obtain topsoil from naturally well-drained construction or mining sites with topsoil at least 4 inches (100 mm) deep; do not obtain from agricultural land, bogs or marshes. Mix imported topsoil with loose compost in the following quantities to produce plant bed media: Ratio of loose compost to topsoil by volume: 1:4 Ratio. Plant bed media using standardized topsoil: ASTM D 5268 topsoil, with pH range of 5.5 to 7, and minimum 6 percent organic material content. Mix ASTM D 5268 topsoil with loose compost in the following quantities to produce plant bed media: Ratio of loose compost to topsoil by volume: 1:4 Ratio
- D. Skeletal or Structural Soil: Patented and licensed, CU-Structural Soil™ or CU-Soil™ as developed by Cornell University and distributed by Amereq, Inc. licensed producers.
- E. Container Plant Mix: Project specific. Designer to specify.
- F. Lightweight Planting Soil: Project specific. Designer to specify.

## **2.6 WATER**

- A. Water shall be suitable for irrigation and free from ingredients harmful to seeded or sodded areas.

## **2.7 WEED-CONTROL BARRIERS**

- A. Weed control barriers are not recommended for planted areas as the materials prevent or slow water penetration required for plant growth. They may be beneficial for largely unplanted, mulched areas.
- B. Nonwoven Geotextile Filter Fabric: Polypropylene or polyester fabric, 3 oz./sq. yd. (101g/sq.m) minimum.
- C. Composite Fabric: Woven, needle-punched polypropylene substrate bonded to a nonwoven polypropylene fabric, 4.8 oz./sq. yd. (162g/sq.m).

## **2.8 MULCHES**

- A. Organic Mulch: Mulch shall be 100 percent fine-shredded pine of uniform size and free from rot, leaves, twigs, noxious weeds, debris, stones, or any material harmful to plant growth.
- B. Compost Mulch: Well-composted, stable, and weed-free organic matter, pH range of 5.5 to 8; moisture content 35 to 55 percent by weight; 100 percent passing through 1-inch (25-mm) sieve; soluble salt content less than 3 decisiemens/m or 3 mmhos/cm as measured for soil mixture electrical conductivity; not exceed 0.5 percent inert contaminants and free of substances toxic to plantings. Product must be cured for a minimum of 90 days and produce minimal heat or odor to be considered a stable, mature product suitable for use with plants.

## **2.9 CHEMICAL PRODUCTS**

- A. General: Pesticides, herbicides, fungicides, bactericides or any other chemical compounds shall be registered and approved by EPA, acceptable to authorities having jurisdiction, and of type recommended by manufacturer for each specific problem and as required for Project conditions and application. Do not use restricted pesticides unless authorized in writing by authorities having jurisdiction.
1. Pre-Emergent Herbicide (Selective and Non-Selective): Effective for controlling the germination or growth of weeds within planted areas at the soil level directly below the mulch layer.
  2. Post-Emergent Herbicide (Selective and Non-Selective): Effective for controlling weed growth that has already germinated.
  3. Anti-desiccant: Shall be an emulsion specifically manufactured for plant protection which provides a protective film over plant surfaces which is permeable enough to permit transpiration. Anti-desiccant shall be delivered in manufacturer's sealed containers and shall contain manufacturer's printed instructions for use. Anti-desiccant shall be Wilt-Pruf as manufactured by Wilt-Pruf Products, Inc. P.O. Box 469 Essex, CT 06426, or approved equal.
  4. Fungicide: Shall be zinc ethylene bisdithiocarbonate (Zineb), or equal, applied at manufacturer's suggested rates.
  5. Chemical Root Control Barrier: Chemical compounds or fabric impregnated with growth-regulating chemicals designed to modify root growth. Manufacturers shall be Plant Health Care or Typar Biobarrier, or approved equal.

## **2.10 FILTER FABRIC OR SOIL SEPARATION FABRIC**

- A. Nonwoven geotextile made of polypropylene, polyolefin, or polyester fibers, or combination, 101 g/sq. m (3 oz./sq. yd.) minimum, Mirafi 140-N, or approved equal.

## **2.11 TREE SUPPORT MATERIALS**

- A. Install tree support materials only when conditions warrant. See Part 3. Rootball stabilization is preferred method.
- B. Rootball Stabilization Materials:
1. At-grade or below-grade stabilization systems to secure each new tree planting by its rootball; sized per manufacturer's written recommendations unless otherwise indicated. Provide one of the following products, or approved equal:
    - a. Tomahawk Tree Stabilizers by Border Concepts, Inc.
    - b. Duckbill Rootball Fixing System by Foresight Products, LLC
    - c. Tree Staples by Tree Staple, Inc.
- C. Wood Stakes: For trees under 10 feet (3.05 m) in height, straight, sound, rough sawn lumber not less than 2 x 2 inch (50 mm x 50 mm), if square, or 2-1/2 inch (62 mm) diameter, if round. Wire for staking shall be 12-gauge steel.
- D. Wire for Guying: Galvanized steel 1 x 19 preformed 3/16 inch (4.76 mm) diameter.
- E. Turnbuckles: Galvanized steel fitted with locking eyebolts.

- F. Deadman: Sound, rough sawn lumber 2 x 4 inch (50 mm x 100 mm) triangular galvanized steel plates, or other material approved by the Landscape Architect.
- G. Hose: High quality braided rubber hose, 3/4 inch (19 mm) diameter and suitable length, black in color.
- H. Polyethylene tie strapping may be used with 2 x 2 inch (50 mm x 50 mm) wood stakes.

## **PART 3 - EXECUTION**

### **3.1 APPROVAL OF EXISTING CONDITIONS**

- A. Prior to commencing installation, the Contractor shall be responsible for immediately notifying the Landscape Architect if any existing site or job conditions are observed which would negatively affect the character of the finished work, its future performance, or that would in any way be to the detriment of job progress and completion. If unobservable, substandard or unacceptable conditions are encountered during the course of work, the Contractor shall alert the Landscape Architect.

### **3.2 PLANT BED PREPARATION**

- A. Loosen subgrade of planting areas to a minimum depth of 12 inches. Remove stones larger than 1 inch in any dimension and sticks, roots, rubbish, and other extraneous matter and legally dispose of them off Owner's property.
  - 1. Spread on rough grade, a thoroughly blended planting media consisting of a combination of compost, topsoil, inorganic soil amendments and fertilizer, as recommended by soil test results.
  - 2. Spread planting media to a depth of 12 inches.
    - a. Do not spread if planting media or subgrade is frozen, muddy, or excessively wet.
    - b. Finish grade (below mulch, after settling) for planted areas shall be 3½ inches (87 mm) below adjacent pavement surfaces.
    - c. Finish grade after settling for seeded areas shall be ½ inch (12 mm) below adjacent pavement surfaces and 1 inch (25 mm) for sodded areas.
- B. Finish Grading: Grade planting areas to a smooth, uniform surface plane with loose, uniformly fine texture. Roll and rake, remove ridges, and fill depressions to meet finish grades. Restore planting areas if eroded or disturbed after finish grading.
- C. Application of Mycorrhizal Fungi, if specified: Broadcast dry product uniformly over prepared soil at the application rate suggested by the manufacturer. Mycorrhizal fungi shall not be used on herbaceous materials or in compacted soils.

### **3.3 LAYOUT OF PLANTING AREAS**

- A. Protect structures, utilities, sidewalks, pavements, other facilities, work by others, grassed areas, and existing plants from damage caused by planting operations. All damage caused by the Contractor, or his work shall be the responsibility of the Contractor to repair or rectify at no additional cost to the Owner.
- B. Lay out individual tree and shrub locations and areas for multiple or mass plantings. Stake locations, outline plant bed areas, adjust locations when requested, and obtain Landscape Architect's acceptance of layout before excavating or planting. Make subsequent adjustments as required.

**3.4 EXCAVATION FOR TREES AND SHRUBS**

- A. Planting Pits and Trenches: Excavate circular planting pits with tapered sides. Excavations with vertical sides are not acceptable. Trim perimeter of bottom leaving center area of bottom raised slightly to support root ball and assist in drainage away from center. Do not further disturb base. Ensure that root ball will sit on undisturbed base soil to prevent settling. Scarify sides of planting pit sheared or smoothed during excavation.
1. Excavate two times as wide as ball diameter.
  2. Excavate at least 12 inches (300 mm) wider than root spread and deep enough to accommodate vertical roots for bare-root stock.
  3. Do not excavate deeper than depth of the root ball, measured from the root flare to the bottom of the root ball.
- B. Subsoil and topsoil removed from excavations **[may] [may not]** be used as planting media.

**3.5 WOODY PLANT INSTALLATION**

- A. Before planting, verify that root flare is visible at top of root ball according to ANSI Z60.1. Remove excess soil from root ball to expose root flare as necessary.
- B. Remove injured roots by cutting cleanly; do not break.
- C. Remove only dead, dying, or damaged branches. Pruning intent and procedure shall be reviewed with the Landscape Architect before proceeding.
- D. Set stock plumb and in center of planting pit or trench with root flare a maximum of 2 inches (50 mm) above adjacent finish grades.
1. Use planting media as specified in Part 2 for backfill.
  2. Add fertilizer and soil amendments in accordance with soil test recommendations and per manufacturers' recommendations.
  3. If specified, add mycorrhizal fungi per manufacturer's recommendations if not incorporated during plant bed preparation.
  4. Add water absorbent crystals or granules to backfill at rates recommended by the product manufacturer.
  5. Balled and Burlapped Plants: After placing some backfill around root ball to stabilize plant, carefully cut and remove burlap, rope, wire baskets, and ties from at least the top 1/3 of root balls and as much as possible without comprising the integrity of the root ball. Non-biodegradable wrappings and ties shall be totally removed from root ball and plant pit.
  6. Container-Grown Plants: Carefully remove root ball from container without damaging root ball or plant.
  7. Fabric Bag-Grown Stock: Carefully remove root ball from fabric bag without damaging root ball or plant.

8. Backfill around root ball in layers, tamping to settle soil and eliminate voids and air pockets. When plant pit is approximately one-half filled, water thoroughly before placing remainder of backfill. Repeat watering until no more water is absorbed.
  9. Continue backfilling process. Form water saucer around perimeter of plant pits of trees and large shrubs. Water again after placing and tamping final layer of soil.
- E. Bare-Root Stock: Set and support bare-root stock in center of planting pit or trench with root a maximum of 2 inches (50 mm) above adjacent finish grade.
1. Use planting media as specified in Part 2 for backfill.
  2. Add fertilizer and soil amendments in accordance with soil test recommendations and per manufacturers' recommendations.
  3. If specified, add mycorrhizal fungi per manufacturer's recommendations if not incorporated during plant bed preparation.
  4. Spread roots without tangling or turning toward surface, and carefully work backfill around roots by hand. Puddle with water until backfill layers are completely saturated. Plumb before backfilling, and maintain plumb while working backfill around roots and placing layers above roots.
  5. Continue backfilling process. Water again after placing and tamping final layer of soil.
- F. When planting on slopes, set the plant so the root flare on the uphill side is flush with the surrounding soil on the slope; the edge of the root ball on the downhill side will be above the surrounding soil. Apply enough soil to cover the downhill side of the root ball.

### **3.6 GROUND COVER AND HERBACEOUS PLANTS INSTALLATION**

- A. Use planting media as specified in Part 2 for backfill.
- B. Excavate and place planting media to a depth of 18 inches (450 mm). Add fertilizer and soil amendments as recommended by soils test, and per manufacturers' recommendations.
- C. If specified, add mycorrhizal fungi per manufacturer's recommendations if not incorporated during plant bed preparation.
  - a. Work soil around roots to eliminate air pockets and leave a slight saucer indentation around plants to hold water.
- D. Water thoroughly after planting, taking care not to cover plant crowns with wet soil.

### **3.7 TRANSPLANTING – GENERAL**

- A. Condition: Deciduous trees 4-inch (100 mm) caliper and larger shall be moved by boxing, be balled and burlapped, or with a tree spade during dormant periods. Deciduous trees smaller than 4-inch caliper (100 mm) shall be moved balled and burlapped, or moved with a tree spade during dormant periods. The size of the tree spade shall be no less than 11 inches (275 mm) diameter per inch (25 mm) of tree caliper.
- B. Digging, Wrapping, and Handling: Plants shall be dug and prepared for moving in a manner that will not cause damage to branches, shape, root system, and development during storage.

- C. Balled and Burlapped Plants: Balls shall be firmly wrapped with burlap or approved cloth substitute. No balled plant will be acceptable if the ball is cracked or broken, or if the stem is loose in the ball, either before or during transplanting. Balled plants shall be lifted and handled from the bottom of the ball. Protect ball and deliver to the relocation site, plant immediately, and water thoroughly. Ball sizes shall be as recommended in ANSI Z60.1.
- D. Bare Root Plants: Plants shall be dug and prepared in such a manner as to provide optimum root mass. Material shall be dormant when dug and root systems shall be kept covered and moist at all times. Upon delivery to relocation site, plant immediately, and water thoroughly. Root spread shall be as recommended in ANSI Z60.1.

**3.8 TRANSPLANTING WITH MECHANICAL TREE SPADE**

- A. Dig hole for tree with same sized equipment as will dig the plant material and transport it to site.
- B. Thoroughly mix a slurry mix of the following in the tree pit:\*

<u>Material</u>	<u>Quantity*</u>
Planting media	5 cu. ft. (0.14 cu. m.) as specified in Part 2 for backfill
Fertilizer	Per soil test recommendation and standard nursery practices for tree caliper
Water	Enough to fill bottom third of tree pit

\* Quantities listed are for 66-inch (1.67 m) tree spade. For larger or smaller units, quantities shall be adjusted accordingly.

- C. Prior to digging the plant material, all lower branches shall be tied up so that the machine will not damage any limbs during digging.
- D. Tree trunk shall be centered in the unit prior to digging.
- E. After digging plant material, and prior to transporting, tie tree limbs down and protect tree from drying out during transport. Trees shall be protected by anti-desiccant spray and/or a plastic or fabric cover.
- F. Position tree in hole as directed by Landscape Architect or Owner and remove tree spade.
- G. Immediately after removal of tree spade, the tree shall be watered completely; all air gaps in slurry mixture shall be filled by working a spade handle or other tool around the entire perimeter of the ball.

**3.9 APPLICATION OF FERTILIZER**

- A. Provide supplements at application rates as recommended by soil test reports from a qualified soil-testing laboratory.
- B. Fertilizer shall be applied when planting pits are backfilled two-thirds full. Fertilizer application shall be of the type, rate, and timing recommended by the testing agency for each plant type and in accordance with ANSI A300 (Part 2) standards for application.
- C. Slow-release fertilizer:
  - 1. Fertilization schedule for trees and shrubs using slow release 4-ounce (118 ml) packet system shall be per manufacturer's recommendations.
  - 2. Fertilizer packets shall be placed 6 to 8 inches (150 to 200 mm) deep below top of



planting soil around root balls of plants. Packets shall be spaced evenly depending on the number of packets required.

### 3.10 MULCHING

- A. Mulch surfaces of plant beds, plant water saucers, and other areas indicated.
  - 1. Trees and Shrubs in Grassed Areas and planters: Create mulched rings 3 inches in depth to encompass plant pits, water saucers, and tree support systems. Do not place mulch within 3 inches of trunks or stems. A continuous, linear mulched area shall be formed if plants are closely spaced to avoid grassed strips less than 2 feet wide or scallops of grass that are difficult to maintain.
  - 2. Shredded pine bark mulch in planting areas: Apply mulch to 3 inches depth throughout planting area extending to bedline indicated in Drawings, and at least 12 inches beyond edge of individual plant pit or trench. Do not place mulch within 3 inches of trunks or stems. Finished surface of settled mulch shall be ½ -1 inches below adjacent pavement or curb surfaces and flush with adjacent grassed areas.

### 3.11 CHEMICAL APPLICATIONS

- A. In areas designated for plantings, remedial and preventative measures shall be taken well in advance of planting to eliminate competitive weed growth, to provide a weed-free and safe, non-toxic media for planting and as a finished landscape product.
- B. If necessary, a systemic post-emergent herbicide shall be applied to existing and emergent weeds in prepared planting beds.
- C. Pre-emergent herbicides are recommended for preventative use in areas not seeded.

### 3.12 FILTER FABRIC OR SOIL SEPARATION FABRIC

- A. Soil separation fabric shall be installed where indicated on the Drawings. Unless otherwise indicated on the Drawings, soil separation fabric shall be overlapped 6 inches (150 mm) along all edges.

### 3.13 TREE SUPPORT

- A. Trees shall not be staked or guyed except when absolutely necessary or under special conditions that warrant precautions be taken. Examples of special conditions that may pose a risk to public safety if trees were unsecured or unsupported include, and are not limited to:
  - 1. High winds
  - 2. Exceptional size and value
  - 3. Steep slope locations (on slopes exceeding 3 Horizontal:1 Vertical)
  - 4. High vandalism areas
- B. When warranted, each tree shall be staked, guyed, or stabilized immediately following planting and in accordance with ANSI A300 (Part 3) standards for guying.
- C. Root stabilization is preferred method, installed per manufacturer's instructions.
- D. Plants shall stand plumb after staking, guying, or stabilizing.
- E. Above-ground support systems shall be removed after one year if tree root system is

established.

- F. Duckbill Tree Support Systems and Duckbill Root Ball Fixing Systems shall be installed in strict conformance with manufacturer's published installation instructions.

**3.14 MAINTENANCE OF PLANTINGS**

- A. Maintenance shall begin immediately after each plant is planted and shall continue until Substantial Completion Acceptance. The Contractor shall provide water for irrigation if none is available on site.
- B. Note: Extend maintenance beyond Substantial Completion or Final Acceptance of Project if necessary to meet above requirements. Landscape Architect may withhold funds from Substantial and Final Completion payments as necessary to assure proper performance of maintenance operations.
- C. Maintenance required:
  - 1. Maintain plantings by pruning, cultivating, watering, weeding, fertilizing, mulching, restoring water saucers, resetting to proper grade or vertical position, and performing other operations as required to establish healthy, viable plantings.
  - 2. Planting areas shall be kept free of weeds, grass, and other undesired vegetative growth.
  - 3. Fill in as necessary soil subsidence that may occur because of settling or other processes. Replace mulch materials damaged or lost in areas of settling. Do not place mulch within 3 inches (75 mm) of trunks or stems. A continuous, linear mulched area shall be maintained between closely spaced plants to avoid grassed strips less than 2 feet (600 mm) wide or scallops of grass that are difficult to maintain.
  - 4. Apply treatments as required to keep plant materials, planted areas, and soils free of pests and pathogens or disease. Use practices to minimize the use of chemicals and pesticides and reduce hazards.
  - 5. Apply pesticides and other chemical products and biological control agents in accordance with authorities having jurisdiction and manufacturer's written recommendations. Coordinate applications with Owner's operations and others in proximity to the Work. Notify Owner before each application is performed.
  - 6. Protect plants from damage due to landscape operations and operations of other contractors and trades. Maintain protection during installation and maintenance periods. Treat, repair, or replace damaged plantings without additional cost to the Owner.
  - 7. Prune, thin, and shape woody materials according to standard professional horticultural and arboricultural practices and in accordance with ANSI A300 (Part 3) Pruning Standards. Unless otherwise indicated by Landscape Architect, do not cut tree leaders; remove only injured, dying, or dead branches from trees and shrubs. Prune to retain natural character.
  - 8. Pruning shall be done with clean, sharp tools. Cuts shall be made at branch collars, leaving no stubs. No tree paint shall be used.

END OF SECTION 32 93 00

**STORM UTILITY DRAINAGE PIPING - 334100**

**PART 1 - GENERAL**

**1.1 RELATED DOCUMENTS**

- A. Drawings and general provisions of the Contract, including General and Supplementary Conditions apply to this Section.
- B. State of Rhode Island Department of Transportation, Standard Specifications for Road and Bridge Construction, Bluebook 2022 Edition.

**1.2 SUMMARY**

- A. Section Includes:
  - 1. Pipe and fittings.
  - 2. Nonpressure transition couplings.
  - 3. Drains.
  - 4. Manholes.
  - 5. Yard Drains.
  - 6. Catch basins.
  - 7. Flared End Sections.

**1.3 DEFINITIONS**

- A. FRP: Fiberglass-reinforced plastic.

**1.4 SUBMITTALS**

- A. Product Data: For each type of product indicated.
- B. Shop Drawings:
  - 1. Manholes: Include plans, elevations, sections, details, frames, and covers.
  - 2. Catch basins and yard drains: Include plans, elevations, sections, details, frames, covers, and grates.
  - 3. Pipe: Include pipe type and class.
  - 4. Flared End Sections: Include flared end section material and type to match pipe.
- C. Coordination Drawings: Show pipe sizes, locations, and elevations. Show other piping in same trench and clearances from storm drainage system piping. Indicate interface and spatial relationship between manholes, piping, and proximate structures.
- D. Product Certificates: For each type of cast-iron soil pipe and fitting, from manufacturer.

- E. Field quality-control reports.

#### 1.5 DELIVERY, STORAGE, AND HANDLING

- A. Do not store plastic manholes, pipe, and fittings in direct sunlight.
- B. Protect pipe, pipe fittings, and seals from dirt and damage.
- C. Handle manholes according to manufacturer's written rigging instructions.
- D. Handle catch basins according to manufacturer's written rigging instructions.

#### 1.6 PROJECT CONDITIONS

- A. Interruption of Existing Storm Drainage Service: Do not interrupt service to facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging to provide temporary service according to requirements indicated:
  - 1. Notify Engineer no fewer than two (2) days in advance of proposed interruption of service.
  - 2. Do not proceed with interruption of service without Engineer's written permission.

### PART 2 - PRODUCTS

#### 2.1 HDPE PIPE AND FITTINGS

- A. Corrugated PE Drainage Pipe and Fittings NPS 3 to NPS 10 (DN 80 to DN 250): AASHTO M 252M, Type S, with smooth waterway for coupling joints.
  - 1. Watertight Couplings: PE sleeve with ASTM D 1056, Type 2, Class A, Grade 2 gasket material that mates with tube and fittings.
  - 2. Watertight Couplings: AASHTO M 252M, corrugated, matching tube and fittings.
- B. Corrugated PE Pipe and Fittings NPS 12 to NPS 60 (DN 300 to DN 1500): AASHTO M 294M, Type S, with smooth waterway for coupling joints.
  - 1. Watertight Couplings: AASHTO M 294M, corrugated, matching pipe and fittings.

#### 2.2 CONCRETE PIPE AND FITTINGS

- A. Reinforced-Concrete Sewer Pipe and Fittings: ASTM C 76.
  - 1. Bell-and-spigot ends and gasketed joints with ASTM C 443, rubber gaskets.
  - 2. Class IV, Wall B.

2.3 PVC PIPE AND FITTINGS

A. PVC Sewer Piping:

1. Pipe: ASTM D 3034, SDR 35, PVC Type PSM sewer pipe with bell-and-spigot ends for gasketed joints.
2. Fittings: ASTM D 3034, PVC with bell ends.
3. Gaskets: ASTM F 477, elastomeric seals.

2.4 NONPRESSURE TRANSITION COUPLINGS

A. Comply with ASTM C 1173, elastomeric, sleeve-type, reducing or transition coupling, for joining underground nonpressure piping. Include ends of same sizes as piping to be joined, and corrosion-resistant-metal tension band and tightening mechanism on each end.

B. Sleeve Materials:

1. For Dissimilar Pipes: ASTM D 5926, PVC or other material compatible with pipe materials being joined.

C. Unshielded, Flexible Couplings:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. Dallas Specialty & Mfg. Co.
  - b. Fernco Inc.
  - c. Logan Clay Pipe.
  - d. Mission Rubber Company; a division of MCP Industries, Inc.
  - e. NDS Inc.
  - f. Plastic Oddities; a division of Diverse Corporate Technologies, Inc.
2. Description: Elastomeric sleeve with stainless-steel shear ring and corrosion-resistant-metal tension band and tightening mechanism on each end.

2.5 YARD DRAINS

A. Yard Drains:

1. Manufacturers: Subject to compliance with requirements, available manufacturers offering products that may be incorporated into the Work include, but are not limited to, the following:
  - a. NyloPlast or approved equivalent.
2. Top-Loading Classification: Heavy Duty.

## 2.6 MANHOLES

### A. Standard Precast Concrete Manholes:

1. Description: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
2. Diameter: 48 inches minimum unless otherwise indicated.
3. Ballast: Increase thickness of precast concrete sections or add concrete to base section as required to prevent flotation.
4. Base Section: 6-inch minimum thickness for floor slab and 4-inch minimum thickness for walls and base riser section, and separate base slab or base section with integral floor.
5. Riser Sections: 4-inch minimum thickness, and lengths to provide depth indicated.
6. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated, and top of cone of size that matches grade rings.
7. Joint Sealant: ASTM C 990, bitumen or butyl rubber.
8. Resilient Pipe Connectors: ASTM C 923, cast or fitted into manhole walls, for each pipe connection.
9. Steps: ASTM A 615, deformed, 1/2-inch steel reinforcing rods encased in ASTM D 4101, PP, wide enough to allow worker to place both feet on one step and designed to prevent lateral slippage off step. Cast or anchor steps into sidewalls at 12-inch intervals.
10. Grade Rings: Reinforced-concrete rings, 6- to 9-inch total thickness, to match diameter of manhole frame and cover, and height as required to adjust manhole frame and cover to indicated elevation and slope.

### B. Manhole Frames and Covers:

1. Description: Ferrous; 1'-11<sup>3</sup>/<sub>4</sub> inch ID by 9<sup>3</sup>/<sub>4</sub> inch riser with 7-inch minimum width flange and 1'-11<sup>1</sup>/<sub>2</sub> inch diameter cover. Include indented top design with lettering cast into cover, using wording equivalent to "NEW HAVEN."
2. Material: ASTM A 48, Class 35 gray iron unless otherwise indicated.

## 2.7 CONCRETE

### A. General: Cast-in-place concrete according to ACI 318, ACI 350/350R, and the following:

1. Cement: ASTM C 150, Type II.
2. Fine Aggregate: ASTM C 33, sand.
3. Coarse Aggregate: ASTM C 33, crushed gravel.
4. Water: Potable.

### B. Portland Cement Design Mix: 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio.

1. Reinforcing Fabric: ASTM A 185, steel, welded wire fabric, plain.
2. Reinforcing Bars: ASTM A 615, Grade 60 deformed steel.

### C. Manhole Channels and Benches: Factory or field formed from concrete. Portland cement design mix, 4000 psi minimum, with 0.45 maximum water/cementitious materials ratio. Include channels and benches in manholes.

1. Channels: Concrete invert, formed to same width as connected piping, with height of vertical sides to three-fourths of pipe diameter. Form curved channels with smooth, uniform radius and slope.
  2. Benches: Concrete, sloped to drain into channel.
- D. Ballast and Pipe Supports: Portland cement design mix, 3000 psi minimum, with 0.58 maximum water/cementitious materials ratio.
1. Reinforcing Fabric: ASTM A 185/A 185M, steel, welded wire fabric, plain.
  2. Reinforcing Bars: ASTM A 615/A 615M, Grade 60 (420 MPa) deformed steel.

## 2.8 CATCH BASINS

- A. Standard Precast Concrete Catch Basins:
1. Description: ASTM C 478, precast, reinforced concrete, of depth indicated, with provision for sealant joints.
  2. Base Section: 8-inch minimum thickness for floor slab and 6-inch minimum thickness for walls and base riser section, and separate base slab or base section with integral floor.
  3. Riser Sections: 6-inch minimum thickness, minimum 48-inch diameter, or as noted on plan, and lengths to provide depth indicated.
  4. Top Section: Eccentric-cone type unless concentric-cone or flat-slab-top type is indicated. Top of cone of size that matches grade rings.
  5. Joint Sealant: ASTM C 990, bitumen or butyl rubber.
  6. Grade Rings: Include two or three reinforced-concrete rings, of 6 to 9-inch total thickness, that match 24-inch diameter frame and grate.
- B. Frames and Grates: ASTM A 36, galvanized steel designed for HS20, structural loading. Include flat, bicycle safe grate with small rectangular drainage openings.
1. Size: 24 by 24 inches minimum unless otherwise indicated.
  2. Grate Free Area: Approximately 50 percent unless otherwise indicated.

## PART 3 - EXECUTION

### 3.1 EARTHWORK

- A. Excavation, trenching, and backfilling are specified in Division 31 Section "Earth Moving."

### 3.2 PIPING INSTALLATION

- A. General Locations and Arrangements: Drawing plans and details indicate general location and arrangement of underground storm drainage piping. Location and arrangement of piping layout take into account design considerations. Install piping as indicated, to extent practical. Where specific installation is not indicated, follow piping manufacturer's written instructions.

- B. Install piping beginning at low point or flared end section, true to grades and alignment indicated with unbroken continuity of invert. Place bell ends of piping facing upstream. Install gaskets, seals, sleeves, and couplings according to manufacturer's written instructions for use of lubricants, cements, and other installation requirements.
- C. Install manholes for changes in direction unless fittings are indicated. Use fittings for branch connections unless direct tap into existing sewer is indicated.
- D. Install proper size increasers, reducers, and couplings where different sizes or materials of pipes and fittings are connected. Reducing size of piping in direction of flow is prohibited.
- E. Install gravity-flow, nonpressure drainage piping according to the following:
  - 1. Install piping pitched down in direction of flow.
  - 2. Install PE corrugated sewer piping according to ASTM D 2321.
  - 3. Install PVC sewer piping according to ASTM D 2321 and ASTM F 1668.
  - 4. Install reinforced-concrete sewer piping according to ASTM C 1479 and ACPA's "Concrete Pipe Installation Manual."

### 3.3 PIPE JOINT CONSTRUCTION

- A. Join gravity-flow, nonpressure drainage piping according to the following:
  - 1. Join corrugated PE piping according to ASTM D 3212 for push-on joints.
  - 2. Join PVC sewer piping according to ASTM D 2321 and ASTM D 3034 for elastomeric-seal joints or ASTM D 3034 for elastomeric-gasketed joints.
  - 3. Join reinforced-concrete sewer piping according to ACPA's "Concrete Pipe Installation Manual" for rubber-gasketed joints.
  - 4. Join dissimilar pipe materials with nonpressure-type flexible couplings.

### 3.4 YARD DRAIN INSTALLATION

- A. Install type of drains in locations indicated.
  - 1. Use Heavy-Duty, top-loading classification drains in vehicle-traffic service or lawn areas.
- B. Fasten grates to drains if indicated.
- C. Set drain frames and covers with tops flush with pavement or lawn surface.

### 3.5 MANHOLE INSTALLATION

- A. General: Install manholes, complete with appurtenances and accessories indicated.
- B. Install precast concrete manhole sections with sealants according to ASTM C 891.
- C. Where specific manhole construction is not indicated, follow manhole manufacturer's written instructions.



- D. Set tops of frames and covers flush with finished surface of manholes that occur in pavements or sidewalks. Set tops 6 inches below finished surface elsewhere unless otherwise indicated.

### 3.6 CATCH BASIN INSTALLATION

- A. Construct catch basins to sizes and shapes indicated.
- B. Set frames and grates to elevations indicated.

### 3.7 CONNECTIONS

- A. Connect nonpressure, gravity-flow drainage piping in building's storm building drains specified in Division 22 Section "Facility Storm Drainage Piping."
- B. Make connections to existing piping and underground manholes.
  - 1. Use commercially manufactured wye fittings for piping branch connections. Remove section of existing pipe; install wye fitting into existing piping; and encase entire wye fitting, plus 6-inch overlap, with not less than 6 inches of concrete with 28-day compressive strength of 3000 psi.
  - 2. Make branch connections from side into existing piping, NPS 21 (DN 525) or larger, or to underground manholes and structures by cutting into existing unit and creating an opening large enough to allow 3 inches of concrete to be packed around entering connection. Cut end of connection pipe passing through pipe or structure wall to conform to shape of and be flush with inside wall unless otherwise indicated. On outside of pipe, manhole, or structure wall, encase entering connection in 6 inches of concrete for minimum length of 12 inches to provide additional support of collar from connection to undisturbed ground.
    - a. Use concrete that will attain a minimum 28-day compressive strength of 3000 psi unless otherwise indicated.
    - b. Use epoxy-bonding compound as interface between new and existing concrete and piping materials.
  - 3. Protect existing piping, manholes, and structures to prevent concrete or debris from entering while making tap connections. Remove debris or other extraneous material that may accumulate.
- C. Pipe couplings, expansion joints, and deflection fittings with pressure ratings at least equal to piping rating may be used in applications below unless otherwise indicated.
  - 1. Use nonpressure-type flexible couplings where required to join gravity-flow, nonpressure sewer piping unless otherwise indicated.
    - a. Unshielded flexible couplings for same or minor difference OD pipes.
    - b. Unshielded, increaser/reducer-pattern, flexible couplings for pipes with different OD.
  - 2. Use pressure-type pipe couplings for force-main joints.

### 3.8 CLOSING ABANDONED STORM DRAINAGE SYSTEMS

- A. Abandoned Piping: Close open ends of abandoned underground piping indicated to remain in place. Include closures strong enough to withstand hydrostatic and earth pressures that may result after ends of abandoned piping have been closed. Use procedure below:
  - 1. Close open ends of piping with at least 8-inch thick, brick masonry bulkheads.
- B. Abandoned Manholes and Structures: Excavate around manholes and structures as required and use procedure below:
  - 1. Remove manhole or structure and close open ends of remaining piping.
- C. Backfill to grade according to Division 31 Section "Earth Moving."

### 3.9 IDENTIFICATION

- A. Materials and their installation are specified in Division 31 Section "Earth Moving." Arrange for installation of green warning tape directly over piping and at outside edge of underground structures.
  - 1. Use detectable warning tape over ferrous piping.
  - 2. Use detectable warning tape over nonferrous piping and over edges of underground structures.

### 3.10 FIELD QUALITY CONTROL

- A. Inspect interior of piping to determine whether line displacement or other damage has occurred. Inspect after approximately 24 inches of backfill is in place, and again at completion of Project.
  - 1. Submit separate reports for each system inspection.
  - 2. Defects requiring correction include the following:
    - a. Alignment: Less than full diameter of inside of pipe is visible between structures.
    - b. Deflection: Flexible piping with deflection that prevents passage of ball or cylinder of size not less than 92.5 percent of piping diameter.
    - c. Damage: Crushed, broken, cracked, or otherwise damaged piping.
    - d. Infiltration: Water leakage into piping.
    - e. Exfiltration: Water leakage from or around piping.
  - 3. Replace defective piping using new materials, and repeat inspections until defects are within allowances specified.
  - 4. Reinspect and repeat procedure until results are satisfactory.
- B. Test new piping systems, and parts of existing systems that have been altered, extended, or repaired, for leaks and defects.
  - 1. Do not enclose, cover, or put into service before inspection and approval.
  - 2. Test completed piping systems according to requirements of authorities having jurisdiction.

3. Schedule tests and inspections by authorities having jurisdiction with at least 24 hours' advance notice.
  4. Submit separate report for each test.
  5. Gravity-Flow Storm Drainage Piping: Test according to requirements of authorities having jurisdiction, UNI-B-6, and the following:
    - a. Exception: Piping with soiltight joints unless required by authorities having jurisdiction.
- C. Leaks and loss in test pressure constitute defects that must be repaired.
- D. Replace leaking piping using new materials, and repeat testing until leakage is within allowances specified.
- 3.11 CLEANING
- A. Clean interior of piping of dirt and superfluous materials. Flush with potable water.

END OF SECTION 334100

**APPENDIX A – Prevailing Wage Decision**

"General Decision Number: RI20230001 06/16/2023

Superseded General Decision Number: RI20220001

State: Rhode Island

Construction Types: Building, Heavy (Heavy and Marine) and Highway

Counties: Rhode Island Statewide.

BUILDING CONSTRUCTION PROJECTS (does not include residential construction consisting of single family homes and apartments up to and including 4 stories) HEAVY, HIGHWAY AND MARINE CONSTRUCTION PROJECTS

Note: Contracts subject to the Davis-Bacon Act are generally required to pay at least the applicable minimum wage rate required under Executive Order 14026 or Executive Order 13658. Please note that these Executive Orders apply to covered contracts entered into by the federal government that are subject to the Davis-Bacon Act itself, but do not apply to contracts subject only to the Davis-Bacon Related Acts, including those set forth at 29 CFR 5.1(a)(2)-(60).

<p>If the contract is entered into on or after January 30, 2022, or the contract is renewed or extended (e.g., an option is exercised) on or after January 30, 2022:</p>	<p>. Executive Order 14026 generally applies to the contract.</p> <p>. The contractor must pay all covered workers at least \$16.20 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on the contract in 2023.</p>
<p>If the contract was awarded on or between January 1, 2015 and January 29, 2022, and the contract is not renewed or extended on or after January 30, 2022:</p>	<p>. Executive Order 13658 generally applies to the contract.</p> <p>. The contractor must pay all covered workers at least \$12.15 per hour (or the applicable wage rate listed on this wage determination, if it is higher) for all hours spent performing on that contract in 2023.</p>

The applicable Executive Order minimum wage rate will be adjusted annually. If this contract is covered by one of the Executive Orders and a classification considered necessary for performance of work on the contract does not appear on this wage determination, the contractor must still submit a conformance request.

Additional information on contractor requirements and worker protections under the Executive Orders is available at <http://www.dol.gov/whd/govcontracts>.

## APPENDIX A

Modification Number	Publication Date
0	01/06/2023
1	01/13/2023
2	02/03/2023
3	03/17/2023
4	04/14/2023
5	05/12/2023
6	06/02/2023
7	06/16/2023

ASBE0006-006 06/01/2022

	Rates	Fringes
HAZARDOUS MATERIAL HANDLER (Includes preparation, wetting, stripping, removal scrapping, vacuuming, bagging & disposing of all insulation materials, whether they contain asbestos or not, from mechanical systems).....	\$ 38.30	25.55

ASBE0006-008 09/01/2021

	Rates	Fringes
Asbestos Worker/Insulator Includes application of all insulating materials, protective coverings, coatings & finishes to all types of mechanical systems.	\$ 45.00	32.89

BOIL0029-001 01/01/2021

	Rates	Fringes
BOILERMAKER.....	\$ 45.87	29.02

BRRIO003-001 06/01/2022

	Rates	Fringes
Bricklayer, Stonemason, Pointer, Caulker & Cleaner.....	\$ 46.86	29.14

BRRIO003-002 09/01/2022

	Rates	Fringes
Marble Setter, Terrazzo Worker & Tile Setter.....	\$ 46.54	30.34

BRRIO003-003 09/01/2022

	Rates	Fringes
Marble, Tile & Terrazzo Finisher.....	\$ 38.78	29.61

CARP0330-001 01/01/2023

	Rates	Fringes

APPENDIX A

CARPENTER (Includes Soft		
Floor Layer).....	\$ 41.53	29.35
Diver Tender.....	\$ 42.53	29.35
DIVER.....	\$ 53.88	29.35
Piledriver.....	\$ 41.53	29.35
WELDER.....	\$ 42.53	29.35

FOOTNOTES:

When not diving or tending the diver, the diver and diver tender shall receive the piledriver rate. Diver tenders shall receive \$1.00 per hour above the pile driver rate when tending the diver.

Work on free-standing stacks, concrete silos & public utility electrical power houses, which are over 35 ft. in height when constructed: \$.50 per hour additional.

Work on exterior concrete shear wall gang forms, 45 ft. or more above ground elevation or on setback: \$.50 per hour additional.

The designated piledriver, known as the ""monkey"": \$1.00 per hour additional.

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 CARP1121-002 01/02/2023

	Rates	Fringes
MILLWRIGHT.....	\$ 41.54	30.73

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 ELEC0099-002 06/01/2023

	Rates	Fringes
ELECTRICIAN.....	\$ 48.61	50.44%
Teledata System Installer.....	\$ 36.46	11.59%+15.31

FOOTNOTES:

Work of a hazardous nature, or where the work height is 30 ft. or more from the floor, except when working OSHA-approved lifts: 20% per hour additional.

Work in tunnels below ground level in combined sewer outfall: 20% per hour additional.

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 ELEV0039-001 01/01/2023

	Rates	Fringes
ELEVATOR MECHANIC.....	\$ 59.36	37.335+a+b

FOOTNOTES:

a. PAID HOLIDAYS: New Years Day; Memorial Day; Independence Day; Labor Day; Veterans' Day; Thanksgiving Day; the Friday after Thanksgiving Day; and Christmas Day.

b. Employer contributes 8% basic hourly rate for 5 years or more of service of 6% basic hourly rate for 6 months to 5 years of service as vacation pay credit.

**APPENDIX A**

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 ENGI0057-001 06/01/2022

Rates Fringes

Operating Engineer: (power plants, sewer treatment plants, pumping stations, tunnels, caissons, piers, docks, bridges, wind turbines, subterranean & other marine and heavy construction work)

GROUP 1.....	\$ 43.55	29.25+a
GROUP 2.....	\$ 41.55	29.25+a
GROUP 3.....	\$ 37.17	29.25+a
GROUP 4.....	\$ 34.32	29.25+a
GROUP 5.....	\$ 40.60	29.25+a
GROUP 6.....	\$ 31.40	29.25+a
GROUP 7.....	\$ 25.40	29.25+a
GROUP 8.....	\$ 37.25	29.25+a
GROUP 9.....	\$ 41.17	29.25+a

a. BOOM LENGTHS, INCLUDING JIBS:

150 feet and over + \$ 2.00  
 180 feet and over + \$ 3.00  
 210 feet and over + \$ 4.00  
 240 feet and over + \$ 5.00  
 270 feet and over + \$ 7.00  
 300 feet and over + \$ 8.00  
 350 feet and over + \$ 9.00  
 400 feet and over + \$10.00

a. PAID HOLIDAYS:

New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day, Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

a. FOOTNOTES:

Hazmat work: \$2.00 per hour additional.  
 Tunnel/Shaft work: \$5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, lighters, boom trucks and derricks

GROUP 2: Digging machine, Ross Carrier, locomotive, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, graders, front end loader (3 yds. and over), vibratory hammer & vacuum truck, roadheaders, forklifts, economobile type equipment, tunnel boring machines, concrete pump and on site concrete plants.

GROUP 3: Oilers on cranes.

GROUP 4: Oiler on crawler backhoe.

GROUP 5: Bulldozer, bobcats, skid steer loader, tractor, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile-powered

APPENDIX A



sweeper (3-yd. capacity), 8-ft. sweeper minimum 65 HP).

GROUP 6: Well-point installation crew.

GROUP 7: Utility Engineers and Signal Persons

GROUP 8: Heater, concrete mixer, stone crusher, welding machine, generator and light plant, gas and electric driven pump and air compressor.

GROUP 9: Boat & tug operator.

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 ENGI0057-002 05/01/2022

	Rates	Fringes
Power Equipment Operator (highway construction projects; water and sewerline projects which are incidental to highway construction projects; and bridge projects that do not span water)		
GROUP 1.....	\$ 36.70	29.25+a
GROUP 2.....	\$ 31.40	29.25+a
GROUP 3.....	\$ 25.40	29.25+a
GROUP 4.....	\$ 31.98	29.25+a
GROUP 5.....	\$ 35.68	29.25+a
GROUP 6.....	\$ 35.30	29.25+a
GROUP 7.....	\$ 30.95	29.25+a
GROUP 8.....	\$ 32.33	29.25+a
GROUP 9.....	\$ 34.28	29.25+a

a. FOOTNOTE: a. Any employee who works three days in the week in which a holiday falls shall be paid for the holiday.

a. PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day.

**POWER EQUIPMENT OPERATOR CLASSIFICATIONS**

GROUP 1: Digging machine, crane, piledriver, lighter, locomotive, derrick, hoist, boom truck, John Henry's, directional drilling machine, cold planer, reclaimer, paver, spreader, grader, front end loader (3 yds. and over), vacuum truck, test boring machine operator, veemere saw, water blaster, hydro-demolition robot, forklift, economobile, Ross Carrier, concrete pump operator and boats

GROUP 2: Well point installation crew

GROUP 3: Utlity engineers and signal persons

GROUP 4: Oiler on cranes

GROUP 5: Combination loader backhoe, front end loader (less than 3 yds.), forklift, bulldozers & scrapers and boats

GROUP 6: Roller,skid steer loaders, street sweeper

GROUP 7: Gas and electric drive heater, concrete mixer, light plant, welding machine, pump & compressor

**APPENDIX A**

GROUP 8: Stone crusher

GROUP 9: Mechanic & welder

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ENGI0057-003 06/01/2022

BUILDING CONSTRUCTION

	Rates	Fringes
Power Equipment Operator		
GROUP 1.....	\$ 42.82	29.25+a
GROUP 2.....	\$ 40.82	29.25+a
GROUP 3.....	\$ 40.60	29.25+a
GROUP 4.....	\$ 36.60	29.25+a
GROUP 5.....	\$ 33.75	29.25+a
GROUP 6.....	\$ 39.90	29.25+a
GROUP 7.....	\$ 39.47	29.25+a
GROUP 8.....	\$ 36.79	29.25+a

a. BOOM LENGTHS, INCLUDING JIBS:

- 150 ft. and over: + \$ 2.00
- 180 ft. and over: + \$ 3.00
- 210 ft. and over: + \$ 4.00
- 240 ft. and over: + \$ 5.00
- 270 ft. and over: + \$ 7.00
- 300 ft. and over: + \$ 8.00
- 350 ft. and over: + \$ 9.00
- 400 ft. and over: + \$10.00

a. PAID HOLIDAYS: New Year's Day, President's Day, Memorial Day, July Fourth, Victory Day, Labor Day, Columbus Day, Veterans Day, Thanksgiving Day & Christmas Day. a: Any employee who works 3 days in the week in which a holiday falls shall be paid for the holiday.

- a. FOOTNOTE: Hazmat work: \$2.00 per hour additional.  
Tunnel/Shaft work: \$5.00 per hour additional.

POWER EQUIPMENT OPERATORS CLASSIFICATIONS

GROUP 1: Cranes, lighters, boom trucks and derricks.

GROUP 2: Digging machine, Ross carrier, locomotive, hoist, elevator, bidwell-type machine, shot & water blasting machine, paver, spreader, front end loader (3 yds. and over), vibratory hammer and vacuum truck

GROUP 3: Telehandler equipment, forklift, concrete pump & on-site concrete plant

GROUP 4: Fireman & oiler on cranes

GROUP 5: Oiler on crawler backhoe

GROUP 6: Bulldozer, skid steer loaders, bobcats, tractor, grader, scraper, combination loader backhoe, roller, front end loader (less than 3 yds.), street and mobile powered sweeper (3 yds. capacity), 8-ft. sweeper (minimum 65 hp)

GROUP 7: Well point installation crew

**APPENDIX A**

GROUP 8: Heater, concrete mixer, stone crusher, welding machine, generator for light plant, gas and electric driven pump & air compressor

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IRON0037-001 03/16/2023

	Rates	Fringes
IRONWORKER.....	\$ 39.50	32.08

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LABO0271-001 11/27/2022

BUILDING CONSTRUCTION

	Rates	Fringes
LABORER		
GROUP 1.....	\$ 35.50	26.85
GROUP 2.....	\$ 35.75	26.85
GROUP 3.....	\$ 36.25	26.85
GROUP 4.....	\$ 36.50	26.85
GROUP 5.....	\$ 37.50	26.85

LABORERS CLASSIFICATIONS

GROUP 1: Laborer, Carpenter Tender, Mason Tender, Cement Finisher Tender, Scaffold Erector, Wrecking Laborer, Asbestos Removal [Non-Mechanical Systems]

GROUP 2: Asphalt Raker, Adzemen, Pipe Trench Bracer, Demolition Burner, Chain Saw Operator, Fence & Guard Rail Erector, Setter of Metal Forms for Roadways, Mortar Mixer, Pipelayer, Riprap & Dry Stonewall Builder, Highway Stone Spreader, Pneumatic Tool Operator, Wagon Drill Operator, Tree Trimmer, Barco-Type Jumping Tamper, Mechanical Grinder Operator

GROUP 3: Pre-Cast Floor & Roof Plank Erectors

GROUP 4: Air Track Operator, Hydraulic & Similar Self-Powered Drill, Block Paver, Rammer, Curb Setter, Powderman & Blaster

GROUP 5: Toxic Waste Remover

LABORERS CLASSIFICATIONS

GROUP 1: Laborer, Carpenter Tender, Mason Tender, Cement Finisher Tender, Scaffold Erector, Wrecking Laborer, Asbestos Removal [Non-Mechanical Systems]

GROUP 2: Asphalt Raker, Adzemen, Pipe Trench Bracer, Demolition Burner, Chain Saw Operator, Fence & Guard Rail Erector, Setter of Metal Forms for Roadways, Mortar Mixer, Pipelayer, Riprap & Dry Stonewall Builder, Highway Stone Spreader, Pneumatic Tool Operator, Wagon Drill Operator, Tree Trimmer, Barco-Type Jumping Tamper, Mechanical Grinder Operator

GROUP 3: Pre-Cast Floor & Roof Plank Erectors

GROUP 4: Air Track Operator, Hydraulic & Similar Self-Powered Drill, Block Paver, Rammer, Curb Setter, Powderman & Blaster

GROUP 5: Toxic Waste Remover

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**APPENDIX A**

\* LABO0271-002 11/27/2022

## HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
LABORER		
COMPRESSED AIR		
Group 1.....	\$ 55.40	24.15
Group 2.....	\$ 52.93	24.15
Group 3.....	\$ 42.45	24.15
FREE AIR		
Group 1.....	\$ 44.05	24.15
Free Air		
Group 1.....	\$ 46.00	24.15
FREE AIR		
Group 2.....	\$ 43.05	24.15
Free Air		
Group 2.....	\$ 45.00	24.15
FREE AIR		
Group 3.....	\$ 40.50	24.15
Free Air		
Group 3.....	\$ 42.45	24.15
LABORER		
Group 1.....	\$ 35.50	24.85
Group 2.....	\$ 35.75	24.85
Group 3.....	\$ 36.50	24.85
Group 4.....	\$ 29.00	24.85
Group 5.....	\$ 37.50	24.85
OPEN AIR CAISSON, UNDERPINNING WORK AND BORING CREW		
Bottom Man.....	\$ 41.50	24.15
Top Man & Laborer.....	\$ 35.60	24.15
TEST BORING		
Driller.....	\$ 41.95	24.15
Laborer.....	\$ 41.95	24.15
LABORER CLASSIFICATIONS		

GROUP 1: Laborer; Carpenter tender; Cement finisher tender; Wrecking laborer; Asbestos removers [non-mechanical systems]; Plant laborer; Driller in quarries

GROUP 2: Adzeperson; Asphalt raker; Barcotype jumping tamper; Chain saw operators; Concrete and power buggy operator; Concrete saw operator; Demolition burner; Fence and guard rail erector; Highway stone spreader; Laser beam operator; Mechanical grinder operator; Mason tender; Mortar mixer; Pneumatic tool operator; Riprap and dry stonewall builder; Scaffold erector; Setter of metal forms for roadways; Wagon drill operator; Wood chipper operator; Pipelayer; Pipe trench bracer

GROUP 3: Air track drill operator; Hydraulic and similar powered drills; Brick paver; Block paver; Rammer and curb setter; Powderperson and blaster

GROUP 4: Flagger & signaler

GROUP 5: Toxic waste remover

## LABORER - COMPRESSED AIR CLASSIFICATIONS

GROUP 1: Mucking machine operator, tunnel laborer, brake person, track person, miner, grout person, lock tender, gauge

APPENDIX A

tender, miner: motor person & all others in compressed air

GROUP 2: Change house attendant, powder watchperson, top person on iron

GROUP 3: Hazardous waste work within the ""HOT"" zone

#### LABORER - FREE AIR CLASSIFICATIONS

GROUP 1: Grout person - pumps, brake person, track person, form mover & stripper (wood & steel), shaft laborer, laborer topside, outside motorperson, miner, conveyor operator, miner welder, heading motorperson, erecting operator, mucking machine operator, nozzle person, rodperson, safety miner, shaft & tunnel, steel & rodperson, mole nipper, concrete worker, form erector (wood, steel and all accessories), cement finisher (this type of work only), top signal person, bottom person (when heading is 50' from shaft), burner, shield operator and TBM operator

GROUP 2: Change house attendant, powder watchperson

GROUP 3: Hazardous waste work within the ""HOT"" zone

#### LABORER CLASSIFICATIONS

GROUP 1: Laborer; Carpenter tender; Cement finisher tender; Wrecking laborer; Asbestos removers [non-mechanical systems]; Plant laborer; Driller in quarries

GROUP 2: Adzeperson; Asphalt raker; Barcotype jumping tamper; Chain saw operators; Concrete and power buggy operator; Concrete saw operator; Demolition burner; Fence and guard rail erector; Highway stone spreader; Laser beam operator; Mechanical grinder operator; Mason tender; Mortar mixer; Pneumatic tool operator; Riprap and dry stonewall builder; Scaffold erector; Setter of metal forms for roadways; Wagon drill operator; Wood chipper operator; Pipelayer; Pipe trench bracer

GROUP 3: Air track drill operator; Hydraulic and similar powered drills; Brick paver; Block paver; Rammer and curb setter; Powderperson and blaster

GROUP 4: Flagger & signaler

GROUP 5: Toxic waste remover

#### LABORER - COMPRESSED AIR CLASSIFICATIONS

GROUP 1: Mucking machine operator, tunnel laborer, brake person, track person, miner, grout person, lock tender, gauge tender, miner: motor person & all others in compressed air

GROUP 2: Change house attendant, powder watchperson, top person on iron

GROUP 3: Hazardous waste work within the ""HOT"" zone

#### LABORER - FREE AIR CLASSIFICATIONS

GROUP 1: Grout person - pumps, brake person, track person, form mover & stripper (wood & steel), shaft laborer,

### APPENDIX A

laborer topside, outside motorperson, miner, conveyor operator, miner welder, heading motorperson, erecting operator, mucking machine operator, nozzle person, rodperson, safety miner, shaft & tunnel, steel & rodperson, mole nipper, concrete worker, form erector (wood, steel and all accessories), cement finisher (this type of work only), top signal person, bottom person (when heading is 50' from shaft), burner, shield operator and TBM operator

GROUP 2: Change house attendant, powder watchperson

GROUP 3: Hazardous waste work within the ""HOT"" zone

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 PAIN0011-005 06/01/2023

	Rates	Fringes
PAINTER		
Brush and Roller.....	\$ 37.62	22.85
Epoxy, Tanks, Towers, Swing Stage & Structural Steel.....	\$ 39.62	22.85
Spray, Sand & Water Blasting.....	\$ 40.62	22.85
Taper.....	\$ 38.37	22.85
Wall Coverer.....	\$ 38.12	22.85

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 PAIN0011-006 06/01/2022

	Rates	Fringes
GLAZIER.....	\$ 40.78	23.40

FOOTNOTES:

SWING STAGE: \$1.00 per hour additional.

PAID HOLIDAYS: Labor Day & Christmas Day.

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 PAIN0011-011 06/01/2023

	Rates	Fringes
Painter (Bridge Work).....	\$ 56.25	23.45

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 PAIN0035-008 06/01/2011

	Rates	Fringes
Sign Painter.....	\$ 24.79	13.72

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 PLAS0040-001 06/03/2019

BUILDING CONSTRUCTION

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 36.00	27.15

FOOTNOTE: Cement Mason: Work on free swinging scaffolds under 3 planks width and which is 20 or more feet above ground and any offset structure: \$.30 per hour additional.

**APPENDIX A**

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 PLAS0040-002 07/01/2019

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
CEMENT MASON/CONCRETE FINISHER...	\$ 32.85	22.20

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 PLAS0040-003 07/01/2019

	Rates	Fringes
PLASTERER.....	\$ 37.55	27.50

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 PLUM0051-002 02/27/2023

	Rates	Fringes
Plumbers and Pipefitters.....	\$ 48.89	31.75

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 ROOF0033-004 06/01/2023

	Rates	Fringes
ROOFER.....	\$ 42.95	30.00

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 SFRI0669-001 04/01/2023

	Rates	Fringes
SPRINKLER FITTER.....	\$ 47.55	32.27

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 SHEE0017-002 12/01/2020

	Rates	Fringes
Sheet Metal Worker.....	\$ 38.58	36.73

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 TEAM0251-001 05/01/2022

HEAVY AND HIGHWAY CONSTRUCTION

	Rates	Fringes
TRUCK DRIVER		
GROUP 1.....	\$ 28.46	32.10+A+B+C
GROUP 2.....	\$ 28.61	\$ 32.10+A+B+C
GROUP 3.....	\$ 28.66	\$ 32.10+A+B+C
GROUP 4.....	\$ 28.71	\$ 32.10+A+B+C
GROUP 5.....	\$ 28.81	\$ 32.10+A+B+C
GROUP 6.....	\$ 29.21	\$ 32.10+A+B+C
GROUP 7.....	\$ 29.41	\$ 32.10+A+B+C
GROUP 8.....	\$ 28.91	\$ 32.10+A+B+C
GROUP 9.....	\$ 29.16	\$ 32.10+A+B+C
GROUP 10.....	\$ 28.96	\$ 32.10+A+B+C

FOOTNOTES:

A. Paid Holidays: New Year's Day, Memorial Day, Independence Day, Labor Day, Thanksgiving Day and Christmas Day, plus Presidents' Day, Columbus Day, Veteran's Day & V-J Day, providing the employee has worked at least one day in the calendar week in which the holiday falls.

**APPENDIX A**

B. Employee who has been on the payroll for 1 year or more but less than 5 years and has worked 150 Days during the last year of employment shall receive 1 week's paid vacation; 5 to 10 years - 2 weeks' paid vacation; 10 or more years - 3 week's paid vacation.

C. Employees on the seniority list shall be paid a one hundred dollar (\$100.00) bonus for every four hundred (400) hours worked, up to a maximum of five hundred dollars (\$500.00)

All drivers working on a defined hazard material job site shall be paid a premium of \$2.00 per hour over applicable rate.

TRUCK DRIVER CLASSIFICATIONS

GROUP 1: Pick-up trucks, station wagons, & panel trucks

GROUP 2: Two-axle on low beds

GROUP 3: Two-axle dump truck

GROUP 4: Three-axle dump truck

GROUP 5: Four- and five-axle equipment

GROUP 6: Low-bed or boom trailer.

GROUP 7: Trailers when used on a double hook up (pulling 2 trailers)

GROUP 8: Special earth-moving equipment, under 35 tons

GROUP 9: Special earth-moving equipment, 35 tons or over

GROUP 10: Tractor trailer

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

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

Unlisted classifications needed for work not included within

**APPENDIX A**



the scope of the classifications listed may be added after award only as provided in the labor standards contract clauses (29CFR 5.5 (a) (1) (ii)).

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

#### Union Rate Identifiers

A four letter classification abbreviation identifier enclosed in dotted lines beginning with characters other than ""SU"" or ""UAVG"" denotes that the union classification and rate were prevailing for that classification in the survey. Example: PLUM0198-005 07/01/2014. PLUM is an abbreviation identifier of the union which prevailed in the survey for this classification, which in this example would be Plumbers. 0198 indicates the local union number or district council number where applicable, i.e., Plumbers Local 0198. The next number, 005 in the example, is an internal number used in processing the wage determination. 07/01/2014 is the effective date of the most current negotiated rate, which in this example is July 1, 2014.

Union prevailing wage rates are updated to reflect all rate changes in the collective bargaining agreement (CBA) governing this classification and rate.

#### Survey Rate Identifiers

Classifications listed under the ""SU"" identifier indicate that no one rate prevailed for this classification in the survey and the published rate is derived by computing a weighted average rate based on all the rates reported in the survey for that classification. As this weighted average rate includes all rates reported in the survey, it may include both union and non-union rates. Example: SULA2012-007 5/13/2014. SU indicates the rates are survey rates based on a weighted average calculation of rates and are not majority rates. LA indicates the State of Louisiana. 2012 is the year of survey on which these classifications and rates are based. The next number, 007 in the example, is an internal number used in producing the wage determination. 5/13/2014 indicates the survey completion date for the classifications and rates under that identifier.

Survey wage rates are not updated and remain in effect until a new survey is conducted.

#### Union Average Rate Identifiers

Classification(s) listed under the UAVG identifier indicate that no single majority rate prevailed for those classifications; however, 100% of the data reported for the classifications was union data. EXAMPLE: UAVG-OH-0010 08/29/2014. UAVG indicates that the rate is a weighted union average rate. OH indicates the state. The next number, 0010 in

#### APPENDIX A

the example, is an internal number used in producing the wage determination. 08/29/2014 indicates the survey completion date for the classifications and rates under that identifier.

A UAVG rate will be updated once a year, usually in January of each year, to reflect a weighted average of the current negotiated/CBA rate of the union locals from which the rate is based.

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 WAGE DETERMINATION APPEALS PROCESS

1.) Has there been an initial decision in the matter? This can be:

- \* an existing published wage determination
- \* a survey underlying a wage determination
- \* a Wage and Hour Division letter setting forth a position on a wage determination matter
- \* a conformance (additional classification and rate) ruling

On survey related matters, initial contact, including requests for summaries of surveys, should be with the Wage and Hour National Office because National Office has responsibility for the Davis-Bacon survey program. If the response from this initial contact is not satisfactory, then the process described in 2.) and 3.) should be followed.

With regard to any other matter not yet ripe for the formal process described here, initial contact should be with the Branch of Construction Wage Determinations. Write to:

Branch of Construction Wage Determinations  
 Wage and Hour Division  
 U.S. Department of Labor  
 200 Constitution Avenue, N.W.  
 Washington, DC 20210

2.) If the answer to the question in 1.) is yes, then an interested party (those affected by the action) can request review and reconsideration from the Wage and Hour Administrator (See 29 CFR Part 1.8 and 29 CFR Part 7). Write to:

Wage and Hour Administrator  
 U.S. Department of Labor  
 200 Constitution Avenue, N.W.  
 Washington, DC 20210

The request should be accompanied by a full statement of the interested party's position and by any information (wage payment data, project description, area practice material, etc.) that the requestor considers relevant to the issue.

3.) If the decision of the Administrator is not favorable, an interested party may appeal directly to the Administrative Review Board (formerly the Wage Appeals Board). Write to:

Administrative Review Board  
 U.S. Department of Labor  
 200 Constitution Avenue, N.W.  
 Washington, DC 20210

**APPENDIX A**

4.) All decisions by the Administrative Review Board are final.

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END OF GENERAL DECISIO"

**APPENDIX B – Federal Contract Provisions**

# Community Development Block Grant Program

## **FEDERAL CONTRACT PROVISIONS**

This project is funded by means of a Grant Agreement between the United States Department of Housing and Urban Development (HUD) and the City of Warwick, for the provision of Federal financial assistance under Title 1 of the Housing and Community Development Act of 1974, and any amendments or supplements thereto, and Bidders must comply with the requirements of that Act and regulations issued by the Secretary of HUD.

### **CONTENTS:**

- ❑ FEDERAL CONTRACT PROVISIONS
- ❑ FEDERAL SECTION 3 (24 CFR 75)
- ❑ FEDERAL PREVAILING WAGE RATE PROVISIONS
- ❑ SAM.GOV REGISTRATION
- ❑ FEDERAL BID SUBMISSION CERTIFICATIONS/FORMS

City of Warwick  
Office of Housing & Community Development  
3275 Post Road  
Warwick, RI 02886  
Contact: William R. Facente, Manager  
Phone & Email: (401) 921-9688 / [william.r.facente@warwickri.com](mailto:william.r.facente@warwickri.com)

Federal Contract Provisions (Updated June 2023)

## **FEDERAL CONTRACT PROVISIONS**

### **1. TITLE VI OF THE CIVIL RIGHTS ACT OF 1964**

(P.L. 88-352), as amended, (42 USC 2000d) and the requirements imposed by the Regulations of the Department of Commerce (15 CFR Part 8) issued pursuant to that

Title. In accordance, therewith no person in the United States shall, on the grounds of race, handicap, color, sex, national origin or familial status be excluded from participation in, be denied the benefits or be otherwise subjected to discrimination under any program or activity which is paid for with federal funds. The Owner further adds that there shall not be any form of discrimination by any party in any CDBG contract on the basis of familial status, sexual orientation or sex.

### **2. REHABILITATION ACT OF 1973**

29 USC 794, Executive Order 11914, Section 504. No otherwise qualified handicapped individual shall, solely by reason of his/her handicap, be denied the benefits of, be excluded from participation in, or be subjected to discrimination under any program or activity receiving federal financial assistance.

### **3. SECTION 202 OF EXECUTIVE ORDER 11246**

A. Activities and contracts not subject to Section 202 (Applicable to Federally assisted construction contracts and related subcontracts of \$10,000 and under.) The City of Warwick follows Rhode Island General Law 37-14.1, Minority Business Enterprises (MBEs) are targeted for participation in all procurement and construction projects and shall be awarded a minimum of ten percent (10%) of the contract's dollar amount which should be subcontracted out to construction firms owned by minorities or women, or by firms serving in the capacity of a supplier, material provider, consultant, architect or engineer. In order to ensure that the contractor and grantee have made a good faith effort to reach these goals, they are required to provide the City of Warwick documentation of their efforts to meet the goals prior to the start of construction. ).

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

1. The contractor shall not discriminate against any employee or applicant for employment because of race, color, religion, sex, or national origin. The Contractor shall take affirmative action to ensure that applicants for employment are employed, and that employees are treated during employment, without regard to their race, color, religion, sex, or national origin. Such action shall include, but not be limited to the following: employment upgrading, demotion, or transfer; recruitment or recruitment advertising; layoff or termination; rates of pay or other forms of

Compensation; and selection for training, including apprenticeship.

2. The contractor shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the Contracting Officer setting forth the provisions of this non-discrimination clause. The Contractor shall state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, or national origin.

3. Contractors shall incorporate foregoing requirements in all subcontracts.

B. Activities and contracts subject to Section 202

Applicable to Federally assisted construction contracts and related subcontracts exceeding \$10,000.

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

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

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

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

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

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

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

(g) The contractor will include the provisions of the sentence immediately preceding paragraph (1) and the provisions of paragraphs (1) through (7) in every subcontract or purchase order unless exempted by rules, regulations, or orders of the Secretary of Labor issued pursuant to Section 204 of Executive Order 11246 of September 24, 1965, so that such provisions will be binding upon each subcontractor or vendor. The contractor will take such action with respect to any subcontract or purchase order as the Department may direct as a means of enforcing such provision, including sanctions for non-compliance. Provided, however, that in the event a contractor becomes involved in, or is threatened with, litigation with a

subcontractor or vendor as a result of such direction by the Department the contractor may request the United States to enter into such litigation to protect the interest of the United States.

2. The applicant hereby agrees that it will incorporate or cause to be incorporated into any contract for construction work, or modification thereof, as defined in the regulations of the Secretary of Labor at 41 CFR Chapter 60, which is paid for in whole or in part with funds obtained from the Federal Government or borrowed on -the credit of the Federal Government pursuant to a grant, contract, loan insurance, or guarantee, or undertaken pursuant to any Federal program involving such grant, contract, loan, insurance, or guarantee, the following equal opportunity clause:

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

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

(b) The contractor will, in all solicitations or advertisements for employees placed by or on behalf of the contractor; state that all qualified applicants shall receive considerations for employment without regard to race, color, religion, sex, or national origin.

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

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

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

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



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

The applicant further agrees that it will be bound by the above equal opportunity clause with respect to its own employment practices when it participates in federally assisted construction work: Provided, that the applicant participating is a State or local government, the above equal opportunity clause is not applicable to any agency, instrumentality or subdivision of such government which does not participate in work on or under the contract.

The applicant agrees that it will assist and cooperate actively with the administering agency and the Secretary of Labor in obtaining the compliance of contractors and subcontractors with the equal opportunity clause and the rules, regulations, and relevant orders of the Secretary of Labor, that it will furnish the administering agency and the Secretary of Labor such information as they may require for the supervision of such compliance, and that it will otherwise assist the administering agency in the discharge of the agency's primary responsibility for securing compliance.

The applicant further agrees that it will refrain from entering into any contract. Or contract modification subject to Executive Order 11246 of September 24, 1965, with a contractor debarred from, or who has not demonstrated eligibility for, Government contracts and federally assisted construction contracts pursuant to the Executive order and will carry out such sanctions and penalties for violation of the equal opportunity clause as may be imposed upon contractors and subcontractors by the administering agency or the Secretary of labor pursuant to Part IL Subpart D of the Executive order. In addition, the applicant agrees that if it fails or refuses to comply within these undertakings, the administering agency may take any or all of the following actions: Cancel, terminate, or suspend in whole or in part this grant (contract, loan, insurance, guarantee); refrain from extending any further assistance to the applicant under the program with respect to which the failure or refund occurred until satisfactory assurance of future compliance has been received from such applicant; and refer the case to the Department of Justice for appropriate legal proceedings.

**4. CERTIFICATION OF NONSEGREGATED FACILITIES AS REQUIRED BY THE MAY 19, 1967, ORDER (32 F.R. 74390 ON ELIMINATION OF SEGREGATED FACILITIES, BY THE SECRETARY OF LABOR.**

Prior to the award of any construction contract or subcontract exceeding \$10,000, the Contractor shall submit signed Certification of Nonsegregated Facilities Forms for him/herself and all subcontractors.

**5. THE AGE DISCRIMINATION ACT OF 1975**

No person in the United States shall, on the basis of age, be excluded from participation or be denied the benefits of, or be subjected to discrimination under, any program or activity undertaken with federal funds.

**6. SECTION 109 OF THE HOUSING AND COMMUNITY DEVELOPMENT ACT OF 1974**

No person in the United States shall on the ground of race, color, national origin, or sex be excluded from participation in, be denied the benefits of, or be subjected to discrimination under any program or activity funded in whole or in part with funds made available under Title I of the Housing and Community Development Act of 1974.

**7. SECTION 3 OF THE HOUSING AND URBAN DEVELOPMENT ACT OF 1968**

Section 3 of the Housing and Urban Development Act of 1968 [12 U.S.C. 1701u and 24 CFR Part 75] is HUD’s legislative directive for providing preference to low- and very low-income residents of the local community (regardless of race or gender), and the businesses that substantially employ these persons, for new employment, training, and contracting opportunities resulting from HUD-funded projects.

As a condition of receiving HUD assistance recipients certify that they will comply with the requirements of Section 3 annually pursuant to 24 CFR 570.607(b).

**Applicability of Section 3 to Community Planning & Development Assistance:**

**Contractors** or subcontractors on a project in **excess of \$200,000** for Section 3 covered projects are **required to comply** with Section 3. Accordingly, the recipient must attempt to reach the **Section 3 minimum numerical goals** found at 24 CFR Part 75, Subpart C:

- (1) Twenty-five (25) percent or more of the total number of labor hours worked by all workers on a Section 3 project are Section 3 workers;

$$\frac{\text{Section 3 Worker Labor Hours}}{\text{Total Labor Hours}} = 25\%$$

Total Labor Hours

**And**

- (2) Five (5) percent or more of the total number of labor hours worked by all workers on a Section 3 project are Targeted Section 3 workers, as defined at § 75.21.

$$\frac{\text{Targeted Section 3 Labor Hours}}{\text{Total Labor Hours}} = 5\%$$

Total Labor Hours

**Recipients that fail to meet the minimum numerical goals above bear the burden of demonstrating why it was not possible to do so.** Such justifications should describe the efforts that were taken, barriers encountered, and other relevant information that will enable the Department to make a compliance determination.

And that this contract, or any subcontracts, must adhere to and contain what is referred to as the Section 3 Clause, and which follows in its entirety:

**Section 3 Clause:**

A. The work to be performed under this contract, subcontract, memorandum of understanding, cooperative agreement, or similar legally binding agreement, is subject to the requirements of section 3 of the Housing and Urban Development Act of 1968 (Section 3). The purpose of Section 3 is to ensure, to the greatest extent feasible, that training, employment, contracting, and other economic opportunities generated by Section 3 covered financial assistance shall be directed to low- and very low-income residents of the neighborhood where the financial assistance is spent, particularly to those who are recipients of government assistance for housing, and to businesses that are either owned by low- or very low-income residents of the neighborhood where the financial assistance is spent, or substantially employ these persons.

B. The parties to this contract, subcontract, memorandum of understanding, cooperative agreement, or similar legally binding agreement agree to comply with HUD's regulations in 24 CFR Part 75, which implement Section 3. As evidenced by execution of this contract or subcontract memorandum of understanding, cooperative agreement or similar legally binding agreement the parties certify that they are under no contractual or other impediment that would prevent them from complying with the requirements of 24 CFR Part 75.

C. The contractor agrees to identify current employees on its payroll when the contract or subcontract was awarded who will be working on the Section 3 covered project or activity and certify that any vacant employment opportunities, including training positions, that are filled:

1. After the contractor is selected; and
2. With persons other than those that meet the definition of a Section 3 resident, were not filled to circumvent the contractor's Section 3 obligations.

D. The contractor agrees to maintain records documenting Section 3 residents that were hired to work on previous Section 3 covered projects or activities that were retained by the contractor for subsequent Section 3 covered projects or activities.

E. The contractor agrees to post signs advertising new employment, training, or Sub-contracting opportunities that will be available as a result of the Section 3 covered projects and activities in conspicuous places at the work site where potential applicants can review them.

F. The contractor agrees to hire, to the greatest extent feasible, Section 3 residents as new hires, or provide written justification to the recipient that is consistent with 24 CFR Part 75, describing why it was unable to meet minimum numerical hiring goals, despite its efforts to comply with the provisions of this clause.

G. The contractor agrees that in order for a Section 3 resident to be counted as a new hire, the resident must work a minimum of 50 percent of the average staff hours worked for the category of work for which they were hired throughout the duration of time that the category of work is performed on the covered project.

H. The contractor agrees to award, to the greatest extent feasible, 10 percent of the total dollar amount of subsequent subcontracts awarded in connection with the Section 3 covered project or activity to Section 3 businesses, or provide written justification that is consistent with 24 CFR Part 75 describing why it was unable to meet that goal, despite their efforts to comply with the provisions of this clause.

I. The contractor agrees to notify Section 3 residents and businesses about the availability of new employment, training, or contracting opportunities created as a result of the receipt of Section 3 covered financial assistance, as stipulated by the awarding agency.

J. The contractor agrees to verify the eligibility of prospective Section 3 residents and businesses for employment, training, or subcontracting opportunities, in accordance with the recipient's policies and procedures.

K. The contractor agrees to provide priority consideration to eligible residents and businesses in accordance with 24 CFR Part 75, as applicable.

L. The contractor agrees to notify potential bidders on subcontracts that are associated with Section 3 covered projects and activities about the requirements of Section 3 and include this Section 3 clause in its entirety into every subcontract awarded.

M. The contractor agrees to impose sanctions upon any subcontractor that has violated the requirements of this clause in accordance with the awarding agency's Section 3 policies and procedures.

N. The contractor agrees to comply with all monitoring, reporting, recordkeeping, and other procedures specified by the awarding agency.

O. If applicable, the contractor agrees to notify each labor organization or representative of workers with which the recipient, sub-recipient, or contractor has a collective bargaining or similar labor agreement or other understanding, if any, about its obligation to comply with the requirements of Section 3 and ensure that new collective bargaining or similar labor agreements provide employment, registered apprenticeship, training, subcontracting, or other economic opportunities to Section 3 residents and businesses, and to post notices in conspicuous places at the work site advising the labor union, organization, or workers' representative of the contractor's commitments under this part.

P. Failure to comply with this clause shall result in the imposition of sanctions. Appropriate sanctions for noncompliance may include: Requiring additional certifications or assurances of compliance; termination or cancelation of the contract, subcontract, memorandum of understanding, cooperative agreement, or similar legally binding arrangement for default; refraining from entering into subsequent contracts, subcontracts, memoranda of understanding, cooperative agreements, or similar legally binding arrangement; repayment of funds, and withholding a portion of contract awards, subcontracts, memoranda of understanding, cooperative agreements, or similar legally binding arrangements.

## **8. LABOR STANDARDS**

A. Davis-Bacon Act as amended (40 U.S.C 276a - 276a-5.) All laborers and mechanics employed by contractors or subcontractors, including employees of other governments, on construction work assisted under this contract, and subject to the provisions of the federal acts and regulations listed in this paragraph, shall be paid wages at rates not less than those prevailing on similar construction in the locality as determined by the Secretary of Labor in accordance with the Davis-Bacon Act.

B. Contract Work Hours and Safety Standards Act (40 U.S.C. 327-333). All laborers and mechanics employed by contractors or subcontractors shall receive overtime compensation in accordance with and subject to the provisions of the Contract Work Hours and Safety Standards Act, and the contractors and subcontractors shall comply with all regulations issued pursuant to these acts and with other applicable Federal laws and regulations pertaining to labor standards.

C. Copeland Anti-Kickback Act requires that workers be paid at least once a week, and without any deductions or rebates except permissible deductions.

## **9. TITLE IV OF THE LEAD BASED PAINT POISONING PREVENTION ACT**

LEAD-BASED PAINT HAZARDS -The use of lead-based paint, that is any paint containing more than 1%-lead by weight, is strictly prohibited from use on any interior surface or exterior surface in any building being rehabilitated with funding from the Community Development program. Additionally, any evidence of a health hazard, which is, defined as cracking, scaling, peeling and loose lead-based paint must be treated to prevent the ingestion of the contaminated paint. It is further necessary to assume that any of the above conditions constitute an immediate or potential hazard and must be corrected using appropriate methods.

10. THE UNIFORM RELOCATION ASSISTANCE AND REAL PROPERTY ACQUISITION POLICIES ACT OF 1970 (P.L. 91-646 as amended), 15 CFR Part 916 including amendments thereto and regulations there under, as provided by 1. M.R.SA 901 et seq. The Contractor and Grantee will ensure that all work performed under this Agreement will be done in accordance with this act.

11. THE NATIONAL ENVIRONMENTAL POLICY ACT OF 1969 (P.L. 90-190); THE NATIONAL HISTORIC PRESERVATION ACT OF 1966 (80 Stat 915, 16 USC 470); AND EXECUTIVE ORDER NO. 11593 OF MAY 31, 1971.

The chief executive officer of the Grantee consents to assume the status of a responsible Federal official under the National Environmental Policy Act of 1969 (NEPA) and other provisions of Federal law, as specified in 24 CTR 58, which further the purposes of NEPA in the areas of historic preservation, noise control floodplains, coastal zones and wetlands, air quality, water quality, wildlife, endangered species, solid waste disposal, and environmental effects abroad.

The chief executive officer is authorized and consents on behalf of the Grantee and himself to accept the jurisdiction of the federal courts for the purpose of enforcement of his responsibilities as such an official.

12. THE FLOOD DISASTER PROTECTION ACT OF 1963 (P.L 93-234), AS AMENDED. e Grantee will fulfill any flood insurance requirements under this Act and any regulations issued there under which NOAA may issue.
13. ARCHITECTURAL BARRIERS ACT (P.L 90-480), 42 USC 4151, AS AMENDED, and the regulations issued or to be issued there under, prescribing standards for the design and construction of any building or facility intended to be accessible to the public or which may result in the employment of handicapped persons therein.
14. THE CLEAN AIR ACT AS AMENDED, 42 USC 1857 ED SEQ.9 THE FEDERAL WATER POLLUTION CONTROL ACT, AS AMENDED, 33 USC 1251 et seq. and the regulations of the Environmental Protection Agency with respect thereto, at 40 CFR Part 15, as amended from time to time. In no event shall any amount of the assistance provided under this Agreement be utilized with respect to a facility, which has given rise to a conviction under section 113(c) (1) of the Clean Air Act or section 309(c) of the Federal Water Pollution Control Act.

#### **15. MINORITY BUSINESS ENTERPRISES**

Referenced in Executive Order #11625, OMEB Circular A-102 Attachment 0 Procurement Standards. Grantees are to give priority to Minority Business Enterprises in purchase of supplies, equipment, construction, and services.

#### **16. CDBG CERTIFICATION**

Grantee shall provide any certification required under Sections 104(b), 106(d)(5) or under any other provision of Title I of the Housing and Community Development Act of

1974 as amended through 1983, including Amendments made by the Housing and Urban Rural Recovery Act of 1983, and shall comply with the terms of such certifications.

#### **17. SECTION 319 OF PUBLIC LAW 101-121**

The grantee shall comply with the requirements of Section 319 of Public Law 101-121 regarding government wide restrictions on lobbying.

#### **SPECIAL CONDITIONS PERTAINING TO HAZARDS, SAFETY STANDARDS AND ACCIDENT PREVENTION**

##### **A. Lead-Based Paint Hazards**

(Applicable to contracts for construction or rehabilitation of residential structures) The construction or rehabilitation of residential structures is subject to the HUD Lead-

Based Paint regulations, 24 CFR Part 35. The contractor and Subcontractors shall comply with the provisions for the elimination of lead-based paint hazards under sub-part B of said regulations. The Owner will be responsible for the inspections and certifications required under Section 35.14(f) thereof.

##### **B. Use of Explosives**

When the use of explosives is necessary for the prosecution of the work, the Contractor shall observe all local, state and federal laws in purchasing and handling explosives. The Contractor shall take all necessary precautions to protect completed work, neighboring property, water lines, or other underground structures. Where there is danger to structures or property from blasting, the charges shall be reduced and the material shall be covered with suitable timber, steel or rope mats. The Contractor shall notify all owners of public utility property of intention to use explosives at least eight hours before blasting is done, close to such property. Any supervision or direction of use of explosives by the Engineer does not in any way reduce the responsibility of the Contractor or his Surety for damages that may be caused by such use.

#### C. Danger Signals and Safely Devices

The Contractor shall make all necessary precautions to guard against damages to property and injury to persons. He shall put up and maintain in good condition, sufficient red or warning lights at night, suitable barricades and other devices necessary to protect the public. In case the Contractor fails or neglects to take such precautions, the Owner may have such lights and barricades installed and charge the cost of this work to the Contractor. Such action by the Owner does not relieve the Contractor of any liability incurred under these specifications or contract.

## **SECTION 3 FEDERAL REQUIREMENTS**

### **For Contracts Exceeding \$200,000**

- 1. SECTION 3 AFFIRMATIVE REQUIREMENTS**
- 2. SECTION # CLAUSE**
- 3. SECTION 3 AFFIRMATIVE ACTION PLAN**
- 4. SECTION 3 CERTIFICATION FOR BUSINESS CONCERNS**
- 5. SECTION 3 INCOME CERTIFICATION FORM**
- 6. SECTION 3 UTILIZATION REPORT (SUBMITTAL REQUIRED PRIOR TO FINAL PAYMENT)**



## **SECTION 3 AFFIRMATIVE REQUIREMENT**

### **[For Prime and Subcontracts that exceed \$200,000]**

Section 3 of the Housing and Urban Development Act of 1968 [12 U.S.C. 1701u and 24 CFR Part 75] is HUD's legislative directive for providing preference to low- and very low-income residents of the local community (regardless of race or gender), and the businesses that substantially employ these persons, for new employment, training, and contracting opportunities resulting from HUD-funded projects. As a condition of receiving HUD assistance recipients certify that they will comply with the requirements of Section 3 annually pursuant to 24 CFR 570.607(b).

**Section 3 projects are those where HUD program assistance is used for housing rehabilitation, housing construction and other public construction projects that generally exceed a \$200,000 project threshold or any Section 3 project funding from HUD's Lead Hazard Control and Healthy Homes programs.**

#### **Applicability of Section 3 to Community Planning & Development Assistance:**

**Contractors** or subcontractors on a project in excess of **\$200,000** for Section 3 covered projects are **required to comply** with Section 3. Accordingly, the recipient must attempt to reach the **Section 3 minimum numerical goals** found at 24 CFR Part 75, Subpart C:

- (1) Twenty-five (25) percent or more of the total number of labor hours worked by all workers on a Section 3 project are Section 3 workers;

$$\frac{\text{Section 3 Worker Labor Hours}}{\text{Total Labor Hours}} = 25\%$$

**And**

- (2) Five (5) percent or more of the total number of labor hours worked by all workers on a Section 3 project are Targeted Section 3 workers, as defined at § 75.21.

$$\frac{\text{Targeted Section 3 Labor Hours}}{\text{Total Labor Hours}} = 5\%$$

**Recipients that fail to meet the minimum numerical goals above bear the burden of demonstrating why it was not possible to do so.** Such justifications should describe the efforts that were taken, barriers encountered, and other relevant information that will enable the Department to make a compliance determination.

### **Contractor Responsibilities Pursuant to Section 3**

- The Prime Contractor (Over \$200,000) must submit a Section 3 plan (attached) to the Sub-Recipient outlining Section 3 hiring and employment opportunities.
- The Prime Contractor must notify all sub-contractors (Over \$200,000) of their responsibilities under Section 3
- The Prime Contractor must provide a permeant workforce breakdown of all current employees and identify those Section 3 workers that were hired within the last five years.

- The Prime Contractor must provide an estimated breakdown of potential hires for the awarded project and timeline of anticipated hiring
- Maintain records that document a **good faith effort** to utilize Section 3 workers and Target Section 3 workers as trainees and employees. (Required of both contractor and sub- contractor.) and any other qualitative efforts to comply with Section 3.

**Section 3 Workers are:**

HUD defines a Section 3 worker for both public housing financial assistance and Section 3 projects as a worker that meets one of the following requirements:

- The worker's income is below the income limit established by HUD for the project area.
- The worker is employed by a Section 3 business concern.
- The worker is a YouthBuild participant.

For § 75.21, Section 3 projects, a Targeted Section 3 worker includes any worker who is employed by a Section 3 business concern or is a Section 3 worker who is:

- Living within the service area or neighborhood of the project; or
- A YouthBuild participant.

**Section 3 Businesses are:**

HUD defines a Section 3 business concern as a business concern that meets one of the following requirements:

- It is at least 51 percent owned by low- or very low-income persons;
- Over 75 percent of the labor hours performed for the business are performed by low- or very low-income persons; or
- It is a business at least 51 percent owned by current public housing residents or residents who currently live in Section 8-assisted housing.

Some examples include: proof of residency in a public housing authority; proof of federal subsidies for housing, food stamps, or unemployment benefits; and payroll data or other relevant business information.

For additional information, please visit the Section 3 website at: [www.hud.gov/section3](http://www.hud.gov/section3).

## SECTION 3 CLAUSE

**All Section 3 covered contracts shall include the following clause (referred to as the “Section 3 Clause”):**

A. The work to be performed under this contract is subject to the requirements of Section 3 of the Housing and Urban Development Act of 1968, as amended, 12 U.S.C. 1701u (section 3). The purpose of section 3 is to ensure that employment and other economic opportunities generated by HUD assistance or HUD-assisted projects covered by section 3, shall, to the greatest extent feasible, be directed to low- and very low-income persons, particularly persons who are recipients of HUD assistance for housing.

B. The parties to this contract agree to comply with HUD's regulations in 24 CFR Part 75, which implement section 3. As evidenced by their execution of this contract, the parties to this contract certify that they are under no contractual or other impediment that would prevent them from complying with the part 75 regulations.

C. The contractor agrees to send to each labor organization or representative of workers with which the contractor has a collective bargaining agreement or other understanding, if any, a notice advising the labor organization or workers' representative of the contractor's commitments under this section 3 clause and will post copies of the notice in conspicuous places at the work site where both employees and applicants for training and employment positions can see the notice. The notice shall describe the section 3 preference, shall set forth minimum number and job titles subject to hire, availability of apprenticeship and training positions, the qualifications for each; and the name and location of the person(s) taking applications for each of the positions; and the anticipated date the work shall begin.

D. The contractor agrees to include this section 3 clause in every subcontract subject to compliance with regulations in 24 CFR Part 75, and agrees to take appropriate action, as provided in an applicable provision of the subcontract or in this section 3 clause, upon a finding that the subcontractor is in violation of the regulations in 24 CFR Part 75. The contractor will not subcontract with any subcontractor where the contractor has notice or knowledge that the subcontractor has been found in violation of the regulations in 24 CFR Part 75.

E. The contractor will certify that any vacant employment positions, including training positions, that are filled (1) after the contractor is selected by before the contract is executed, and (2) with persons other than those to whom the regulations of 24 CFR Part 75 require employment opportunities to be directed, were not filled to circumvent the contractor's obligations under 24 CFR Part 75.

F. Noncompliance with HUD's regulations in 24 CFR Part 75 may result in sanctions, termination of this contract for default, and debarment or suspension from future HUD assisted contracts.

**SECTION 3 AFFIRMATIVE ACTION PLAN**  
**(Prime Contractor)**  
**[For Projects that exceed \$200,000]**

\_\_\_\_\_, Contractor, agrees to implement the following specific affirmative action steps directed at increasing the utilization of Section 3 Residents' and Section 3 Business Concerns within the City of Warwick.

- A.** To ascertain from the City the exact boundaries of the Section 3 Covered Project Area and where advantageous, seek the assistance of City of Warwick in preparing and implementing the affirmative action plan.
- B.** To attempt to recruit from within the City of Warwick the necessary individuals to fill employment opportunities generated by Section 3 covered assistance through: local advertising media, signs placed at the proposed site for the project, and community organizations and public or private institutions operating within or serving the project area and providing preference for these opportunities in the following order:
  - (i) Section 3 Residents residing in the service area or neighborhood in which the Section 3 covered project is located;
  - (ii) Participants in HLJD Youthbuild Programs, and
  - (iii) Other Section 3 Residents.
- C.** To maintain a list of all lower income area residents who have applied either on their own or on referral from any source, and to employ such persons, if otherwise eligible and a vacancy exists.
- D.** To insert this Section 3 Affirmative Action Plan in all bid documents for contracts over \$200,000, and to require all bidders on subcontracts over \$200,000 to submit a Section 3 Affirmative Action Plan, including utilization goals and the specific steps planned to accomplish these goals.
- E.** To ensure that subcontracts over \$200,000 which are typically let on a negotiated rather than bid basis in areas other than Section 3 covered project areas, are also let on a negotiated basis, whenever feasible, when let in a Section 3 covered project area.
- F.** To formally contact unions, subcontractors and trade associations to secure their cooperation for this program.
- G.** To notify Section 3 residents and Section 3 business concerns about economic opportunities generated by Section 3 covered assistance and to award Section 3 covered contracts, to the greatest extent feasible, to Section 3 business concerns in the following order of preference:
  - (i) Section 3 business concerns that provide economic opportunities for Section 3 residents in the service area or neighborhood in which the Section 3 covered project is located;
    - (ii) Applicants selected to carry out HUD Youthbuild projects;
    - (iii) Other Section 3 business concerns.
- H.** To notify potential contractors about Section 3 requirements of this part and incorporating the Section 3 clause in all solicitations and contracts.

- I.** To facilitate the training and employment of Section 3 residents and the award of contracts to Section 3 business concerns undertaking activities to reach the numerical goal established by HUD.
- J.** To cooperate in obtaining the compliance of contractors and subcontractors with the requirements of Section 3.
- K.** To submit reports to City and HUD on the results of actions taken to provide training, jobs and contracts to Section 3 residents and Section 3 business concerns.
- L.** To appoint an executive official of the company or agency as Equal Employment Opportunity Officer to coordinate the implementation of this Section 3 Affirmative Action Plan.
- M.** To document utilization of Section 3 Employees on the covered project by having existing employees, and new employees, (including those of all subcontractors) from the Section 3 Area, complete the Section 3 Income Worksheet as provided by the City.
- N.** To complete a Section 3 Utilization Report and submit said report to City of Warwick, or their designee prior to final payment for the covered project; This report will list all Section 3 Employees documented on the Section 3 Income Worksheets and be in the format provided by City.
- O.** To maintain records, including copies of correspondence, income verification memoranda, etc., which document that all levels of the above affirmative action steps have been taken.

CONTRACTOR CERTIFICATION:

As officers and representative of: \_\_\_\_\_  
(Name of Contractor)

On behalf of the Company, I have read and fully agree to the Section 3 Affirmative Action Plan, and become a party to the full implementation of this program.

\_\_\_\_\_  
Name and Title of the Authorized Representative (print or type)

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Date

**SECTION 3 UTILIZATION REPORT**

**(To be Completed by contractors and subs for all Projects at or Exceeding \$200,000)**

**A. SECTION 3 EMPLOYEE LABOR INFORMATION**

Name of Contractor: \_\_\_\_\_

Name of Project: \_\_\_\_\_

Total number of Labor Hours on the project \_\_\_\_\_

Total number of Section 3 Labor Hours on the project \_\_\_\_\_ = \_\_\_\_\_ % of total labor hours.

Number of Section 3 Employees Utilized on Project by Prime Contractor: \_\_\_\_\_

Number of Section 3 Employees Utilized on Project by Subcontractors: \_\_\_\_\_

Total Number of Section 3 Employees Utilized on Project: \_\_\_\_\_

**B. CERTIFICATION OF PRIME CONTRACTOR**

As officer and representative of: \_\_\_\_\_

Name of Prime Contractor

Address: \_\_\_\_\_

\_\_\_\_\_

Telephone Number: \_\_\_\_\_

On behalf of the Company, I hereby certify that the above information is true and accurate and is reported fully as required by the Section 3 Affirmative Action Plan as part of the contract for this CDBG assisted construction project. It is further understood that final payment from the City of Warwick for this project cannot be made until this Report is submitted to the City.

\_\_\_\_\_  
Name and Title of Authorized Representative (print or type)

\_\_\_\_\_  
Signature of Authorized Representative

\_\_\_\_\_  
Date

**TARGETED SECTION 3 AND SECTION 3 WORKER TRACKING FORM**

<b>Name of Employee</b> <small>INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER)</small>	<b>Worker Classification</b>	<b>Targeted Section 3 Workers</b>  Yes or No	<b>Section 3 Workers</b>  Yes or No	<b>Labor Hours Worked</b>

**DIRECTIONS FOR COMPLETION OF  
SECTION 3 UTILIZATION REPORT  
(For Projects at or Exceeding \$200,000)**

1. Determine the level Section 3 participation in the construction project.
  - a. All employees of the General Contractor and all employees of any and all subs must fill out the one-page Section 3 Income Worksheet and return it to you. If you hire new employees who reside in the county where the construction is taking place to work on the CDBG project, have them complete the one-page Section 3 Income Worksheet and return it to you. Compare the Worksheet to the Section 3 Income Schedule provided you at the pre-construction conference to determine if the employee is Section 3 eligible.
  - b. Distribute copies of the Section 3 Income Worksheet to all subcontractors you engage for the project. All employees of any and all subs must fill out the one-page Section 3 Income Worksheet and return it to you. Instruct all subs to have any new employees they hire who reside in the county where the construction is taking place complete the worksheet and have the subcontractors return the forms to you. Compare as in (a.), above to determine Section 3 eligibility.
2. Retain all Section 3 Income Worksheets with your project records.
3. Complete (A) Section 3 Employee Information area of the report.
  - a. Enter name of the Contractor.
  - b. Enter project name.
  - c. Enter the total number of labor hours on the project.
  - e. Enter the number of Section 3 labor hours on the project and calculate what percentage it is of the total labor hours on the project (using the number entered in d)
  - f. Enter number of Section 3 Employees you utilized on project.
  - g. Enter number of Section 3 Employees utilized by subcontractors on project
  - h. Enter total number (f + g) of Section 3 Employees utilized on project
4. Complete (B) Certification by Prime Contractor area of Report
  - a. List your name, address and telephone number of your company.
  - b. Print or type name and title of authorized company representative.
  - c. Have authorized representative sign and date Report.





## CITY OF WARWICK

**FRANK J. PICOZZI, MAYOR**

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### Section 3 Business Concern Certification

**Instructions:** Enter the following information and select the criteria that applies to certify your business' Section 3 Business Concern status.

#### Business Information

Name of Business \_\_\_\_\_

Address of Business \_\_\_\_\_

Name of Business Owner \_\_\_\_\_

Phone Number of Business Owner \_\_\_\_\_

Email Address of Business Owner \_\_\_\_\_

#### Preferred Contact Information

Same as above

Name of Preferred Contact \_\_\_\_\_

Phone Number of Preferred Contact \_\_\_\_\_

#### Type of Business (select from the following options):

Corporation       Partnership       Sole Proprietorship       Joint Venture

#### Select from *ONE* of the following three options below that applies:

At least 51 percent of the business is owned and controlled by low- or very low-income persons (Refer to income guidelines on page 4).

At least 51 percent of the business is owned and controlled by current public housing residents or residents who currently live in Section 8-assisted housing.

Over 75 percent of the labor hours performed for the business over the prior three-month period are performed by Section 3 workers (Refer to definition on page 2).

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**Business Concern Affirmation**

I affirm that the above statements are true, complete, and correct to the best of my knowledge and belief. I understand that businesses who misrepresent themselves as Section 3 business concerns and report false information to the City of Warwick and their Subrecipient may have their contracts terminated as default and be barred from ongoing and future considerations for contracting opportunities. I hereby certify, under penalty of law, that the following information is correct to the best of my knowledge.

Print Name: \_\_\_\_\_

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

Information regarding Section 3 Business Concerns can be found at [24 CFR 75.5](#)

<b>FOR ADMINISTRATIVE USE</b>
<p>Is the business a Section 3 business concern based upon their certification?  <input type="checkbox"/> <b>YES</b>      <input type="checkbox"/> <b>NO</b></p> <p><b>EMPLOYERS MUST RETAIN THIS FORM IN THEIR SECTION 3 COMPLIANCE FILE FOR FIVE YEARS.</b></p>

**The City of Warwick Eligibility Guidelines  
Section 3 Worker**

The worker’s income must be at or below the amount provided below for an individual (household of 1) regardless of actual household size.

**Individual Income Limits**

<b>Income Category</b>	<b>FY 2023 Income Limits</b>
Extremely Low Income (30%)	\$21,500
Very Low Income (50%)	\$35,850
Low Income (80%)	\$57,350

See <https://www.huduser.gov/portal/datasets/il.html> for most recent income limits.

**Section 3 Worker Definition:**

- A low or very low-income resident (the worker’s income for the previous or annualized calendar year is below the 80% income limit established by HUD); or
- Employed by a Section 3 business concern; or
- A Youth Build participant.

**Targeted Section 3 Worker Definition:**

- Employed by a Section 3 business concern or
- Currently meets or when hired met at least one of the following categories as documented within the past five years:
  - Living within the service area or the neighborhood of the project, as defined in 24CFR 75.5
  - A Youth Build participant.



## CITY OF WARWICK

FRANK J. PICOZZI, MAYOR

### Section 3 Worker Self-Certification

The purpose of HUD's Section 3 program is to provide employment, training and contracting opportunities to low-income individuals, particularly those who are recipients of government assistance for housing or other public assistance programs. **Your response is voluntary, confidential, and has no effect on your employment.**

#### Eligibility for Section 3 Worker or Targeted Section 3 Worker Status

A Section 3 worker seeking certification shall self-certify and submit this form to the recipient contractor or subcontractor, that the person is a Section 3 worker or Targeted Section 3 Worker as defined in 24 CFR Part 75.

**Instructions:** Enter/select the appropriate information to confirm your Section 3 worker or Targeted Section 3 Workerstatus.

Employee Name: \_\_\_\_\_

1. Are you a resident of public housing or a Housing Choice VoucherHolder (Section 8)?  YES  NO
2. Are you a resident of the [City/County of insert name]  YES  NO
3. In the field below, select the amount of individual income you believe you earn on an annual basis. \*The grantee should confirm that their state and local laws do not prohibit this question.

- |  |  |   |
|--|--|---|
| <input type="checkbox"/> Less than \$10,000  | <input type="checkbox"/> \$30,001 - \$40,000 | <input type="checkbox"/> More than \$60,000 |
| <input type="checkbox"/> \$10,001 - \$20,000 | <input type="checkbox"/> \$40,001 - \$50,000 |   |
| <input type="checkbox"/> \$20,001 - \$30,000 | <input type="checkbox"/> \$50,001 - \$60,000 |   |

Select from *ONE* of the following two options below:

I qualify as a:

- Section 3 Worker (as defined on page 4 of Section 3 Worker Certification Form)
- Targeted Section 3 Worker (as defined on pages 4-5 of Section 3 Worker Certification Form)

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## Employee Affirmation

I affirm that the above statements are true, complete, and correct to the best of my knowledge and belief. I hereby certify, under penalty of law, that the following information is correct to the best of my knowledge.

Employee Address: \_\_\_\_\_

Print Name: \_\_\_\_\_ Date Hired: \_\_\_\_\_

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

### FOR ADMINISTRATIVE USE

Is the employee a Section 3 worker based upon their self-certification?  YES  NO

Is the employee a Targeted Section 3 worker based upon their self-certification?  YES  NO

**Was this an applicant who was hired as a result of the Section 3 project?**  YES  NO

**If Yes, what is the name of the company?** \_\_\_\_\_

**What was the date of hire?**

EMPLOYERS MUST RETAIN THIS FORM IN THEIR SECTION 3 COMPLIANCE FILE FOR FIVE YEARS.

### The City of Warwick Eligibility Guidelines Section 3 Worker

The worker's income must be at or below the amount provided below for an individual (household of 1) regardless of actual household size.

#### Individual Income Limits

Income Category	FY 2023 Income Limits
Extremely Low Income (30%)	\$21,500
Very Low Income (50%)	\$35,850
Low Income (80%)	\$57,350

See <https://www.huduser.gov/portal/datasets/il.html> for most recent income limits.

#### Section 3 Worker Definition:

- A low or very low-income resident (the worker's income for the previous or annualized calendar year is below the 80% income limit established by HUD); or
- Employed by a Section 3 business concern; or
- A Youth Build participant.

#### Targeted Section 3 Worker Definition:

- Employed by a Section 3 business concern or
- Currently meets or when hired met at least one of the following categories as documented within the past five years:
  - Living within the service area or the neighborhood of the project, as defined in 24CFR 75.5
  - A Youth Build participant.



# CITY OF WARWICK

## FRANK J. PICOZZI, MAYOR

### Davis-Bacon Labor Relations Section 3, Minority and Woman-Owned Business Certification

The undersigned bidder/contractor certifies as part of its bid or contract that it is a Section 3 Business Concern as indicated below (check applicable box):

Family Size	Max Annual Income	Family Size	Max Annual Income
1	\$57,350	5	\$88,500
2	\$65,550	6	\$95,050
3	\$73,750	7	\$101,600
4	\$81,900	8	\$108,150

*A Section 3 Resident is defined as any low or very low-income person residing within the City of Warwick. Low income is defined at 80% of the area median income based on family size.*

Category 1 Business Concern: A business that is owned by 51% or more Section 3 Residents; OR

Category 2 Business Concern: Over 75% of the labor hours performed for the business over the prior three-month period was performed by Section 3 Workers; OR

Category 3 Business Concern: A business is 51% or more owned AND controlled by current public housing residents or residents who currently live in Section 8-assisted housing

Is not a Section 3 Business Concern

The undersigned bidder/contractor certifies as part of its bid or contract that it is a minority-owned business as indicated below (check applicable box):

Minority-Owned Business: A business that is owned by 51% or more by a minority resident.  
Race: \_\_\_\_\_ AND Hispanic: Y / N

Is not a Minority-Owned Business

The undersigned bidder/contractor certifies as part of its bid or contract that it is a woman-owned business as indicated below (check applicable box):

Woman-Owned Business: A business that is owned 51% or more by a woman resident.

Is not a Woman-Owned Business

### CERTIFICATION

\_\_\_\_\_  
Business Name

\_\_\_\_\_  
Project Name

\_\_\_\_\_  
Business Address

\_\_\_\_\_  
DUNS #

\_\_\_\_\_  
Tax ID #(EIN)

\_\_\_\_\_  
Signatory Name

\_\_\_\_\_  
Signature

\_\_\_\_\_  
Date

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# Section 3 New Rule - 24 CFR 75

## About Section 3

*Section 3 is not just a grantee "requirement." It's a path toward economic uplift and self-sufficiency*

The Section 3 program requires that recipients of certain HUD funding, to the greatest extent possible, provide training, employment, contracting and other economic opportunities to low- and very low-income persons, especially those living in federally subsidized housing, and to businesses that provide economic opportunities to low- and very low-income persons.

The intent of Section 3 is to promote economic uplift and self-sufficiency among low-income persons, level the playing field for Section 3 residents/workers and businesses and strengthen local economies. Section 3 is not about compliance. It's about investing in good partners for an economic benefit and giving them the opportunity to benefit with you.

## Section 3 Final Rule

*Section 3 has been around almost as long as HUD has existed. As part of the ladder into economic uplift and self-sufficiency, the rule was revised September 28, 2020.*

The Section 3 new rule will allow more HUD-assisted households to secure long-term employment and put them on a path towards economic uplift and self-sufficiency.

### The final rule seeks to improve effectiveness by:

- ▶ Focusing reporting on key outcome metrics
- ▶ Promoting sustained employment and career development
- ▶ Aligning reporting with standard business practices
- ▶ Changing thresholds for Section 3-covered assistance

## Section 3 Worker

### What is a Section 3 Worker?

Section 3 worker means any resident who fits one of the following categories:

- A worker whose income for the previous or annualized calendar year is below the income limit established by HUD
- Employed by a Section 3 business concern
- A YouthBuild participant

## Targeted Section 3 Worker

### What is a Targeted Section 3 Worker?

Targeted Section 3 is a Section 3 worker who is also:

- A worker employed by a Section 3 business concern
- A worker who currently is or who was when hired by the worker's current employer, as documented within the past five years:
  - o Public Housing resident or HCV participant
  - o Resident of other housing assisted by the PHA or in the PHA's property management portfolio
  - o Living within the service area or the neighborhood of the project; or
  - o A YouthBuild participant

## Section 3 Business

### What is a Section 3 Business?

Section 3 business means any business that meets at least one of the following criteria, documented within the last six-month period:

- 51% or more owned and controlled by low-very low-income persons
- 75% or more labor hours are performed by low or very low-income persons
- 51 % or more owned and controlled by current residents of public housing or HCV assisted housing

The final rule changes the definition of a Section 3 business by focusing on how many hours employees work rather than number of employees. Rather than limiting businesses to low- or very low-income residents of the metropolitan statistical area where Section 3 funds are spent, it emphasizes low- or very-low income persons, including those living in public housing or Section 8.

The rule focuses on tracking and reporting of labor hours instead of new hires. The focus on labor hours would measure total actual employment and the proportion of the total employment performed by low- and very low-income workers. In addition, the focus on labor hours emphasizes continued employment.

## New Rule Benchmarks

The new Section 3 performance benchmarks are still under consideration by HUD and will be published in the near future.

## Opportunity Portal

Helps match Section 3 workers to jobs and training opportunities, and Section 3 businesses to contracting opportunities.

<https://hudapps.hud.gov/OpportunityPortal/>

## Business Registry

A listing of firms that have self-certified that they meet one of the regulatory definitions of a Section 3 business and are included in a searchable online database that can be used by agencies that receive HUD funds, developers, contactors and others to facilitate the awareness of certain HUD-funded contracts.

<https://portalapps.hud.gov/Sec3BusReg/BRegistry/BRegistryHome>



# Section 3 Business Registry and Opportunity Portal

## Frequently Asked Questions

### What is Section 3

Section 3 is a provision of the Housing and Urban Development Act of 1968. The purpose of Section 3 is to ensure that preference for employment, training and contracting opportunities generated from the expenditure of certain HUD funds is directed to local low- and very low-income persons, particularly those who receive federal housing assistance, and businesses that are owned by or substantially employ such persons.

### Section 3 Opportunity Portal

The Section 3 Opportunity Portal is intended to help HUD grantees and Section 3 businesses meet their Section 3 obligations for employment and contracting. The site is to be used by either Section 3 workers or employers. Section 3 residents may use the site to search for Jobs and post their profile/employment history for companies to search. Employers may use the site for posting jobs/contract opportunities or search for residents to fill positions.

<https://hudapps.hud.gov/OpportunityPortal/>

### Section 3 Worker

#### What is a Section 3 Worker?

Section 3 worker means any resident who fits one of the following categories:

- A worker whose income for the previous or annualized calendar year is below the income limit established by HUD
- Employed by a Section 3 business concern
- A YouthBuild participant

### Targeted Section 3 Worker

#### What is a Targeted Section 3 Worker?

Targeted Section 3 is a Section 3 worker who is also:

- A worker employed by a Section 3 business concern
- A worker who currently is or who was when hired by the worker's current employer, as documented within the past five years:
  - o Public Housing resident or HCV participant
  - o Resident of other housing assisted by the PHA or in the PHA's property management portfolio
  - o Living within the service area or the neighborhood of the project; or
  - o A YouthBuild participant

### Section 3 Business

#### What is a Section 3 Business?

Section 3 business means any business that meets at least one of the following criteria, documented within the last six-month period:

- 51% or more owned and controlled by low-very low-income persons
- 75% or more labor hours are performed by low or very low-income persons
- 51% or more owned and controlled by current residents of public housing or HCV assisted housing

The final rule changes the definition of a Section 3 business by focusing on how many hours employees work rather than number of employees. Rather than limiting businesses to low- or very low-income residents of the metropolitan statistical area where Section 3 funds are spent, it emphasizes low- or very-low income persons, including those living in public housing or Section 8.

The rule focuses on tracking and reporting of labor hours instead of new hires. The focus on labor hours would measure total actual employment and the proportion of the total employment performed by low- and very low-income workers. In addition, the focus on labor hours emphasizes continued employment.



## HUD's Section 3 Business Registry

The Section 3 Business Registry is a registry of businesses that have self-certified their status as Section 3 businesses. Businesses who self-certify that they meet one of the regulatory definitions of a Section 3 business will be included in a searchable online database. The database can be used by agencies that receive HUD funds, developers, contractors, and others to facilitate the award of covered construction and non-construction contracts to Section 3 businesses. Section 3 workers are also encouraged to use the registry to identify businesses that may have HUD-funded employment opportunities.

<https://portalapps.hud.gov/Sec3BusReg/BRegistry/BRegistryHome>

**How does my firm submit a self-certification application for Section 3?**

[www.hud.gov/Sec3Biz](http://www.hud.gov/Sec3Biz)

**When does a business certification expire?**

Businesses must recertify after 3 years

**Where do I find the database of businesses that have self-certified for Section 3?**

[www.hud.gov/Sec3Biz](http://www.hud.gov/Sec3Biz)

**How can I change or update my contact information?**

Email: [Sec3biz@hud.gov](mailto:Sec3biz@hud.gov)

## Business Registry Required Documentation

For inclusion in the registry, businesses must submit the online application and are not initially required to submit any additional documentation to HUD. Additional documentation may be requested if HUD receives complaints alleging that any business in its registry has misrepresented their firm's status to the Department. Businesses may also be required to submit supporting documentation as evidence of their eligibility to recipients prior to the award of the HUD-funded contract.

## Verification of Business Authenticity

While the Department maintains the business registry database, it has not verified the information submitted by the businesses and does not endorse the services they provide. Accordingly, it is recommended that users perform due diligence before awarding contracts to businesses that have self-certified their status as a Section 3 business.

The Department will periodically conduct random audits of the Section 3 businesses in its registry.

## Are Section 3 Businesses Automatically Entitled to HUD-funded Contracts?

Section 3 businesses are not entitled to a contract simply by being listed in the HUD Section 3 Business Registry Database. Section 3 businesses may need to demonstrate to the satisfaction of the recipient agency (i.e., Public Housing Authority, local government agency, developer, etc.) that they are a responsible bidder with the ability to perform successfully under the terms and the conditions of prospective contracts.

The Section 3 regulation at 24 CFR Part 135.36 provides preference to Section 3 businesses that submit responsible bids for contracts and subcontracts, but does not guarantee the award of contracts.

## Will My Business Be Contacted After it is Listed on the Section 3 Business Registry?

HUD grantees and their developers are required to do so. Businesses should proactively reach out to recipients or area or Nonmetropolitan Country.

for contracts, but they are not covered HUD funding in their metropolitan

## How to Report a Firm That is Not Section 3

The Department strongly encourages anyone that believes that a firm in this registry does not meet the eligibility criteria of a Section 3 business to notify the HUD Office of Inspector General at <http://www.hudoig.gov/report-fraud>. HUD's Office of Inspector General is responsible for investigating claims of fraudulence. In such situations, the HUD Office of Inspector General may request documentation and additional information from the business to verify that they qualify for inclusion in the database. Businesses found to have misrepresented themselves will be removed from the database and penalized as appropriate by the HUD Office of Inspector General.

**Wage and Hour Division**

# Instructions For Completing Payroll Form, WH-347

- o [WH-347](#) (PDF)  
OMB Control No. 1235-0008, Expires 07/31/2024.

**General:** Form WH-347 has been made available for the convenience of contractors and subcontractors required by their Federal or Federally-aided construction-type contracts and subcontracts to submit weekly payrolls. Properly filled out, this form will satisfy the requirements of Regulations, Parts 3 and 5 (29 C.F.R., Subtitle A), as to payrolls submitted in connection with contracts subject to the Davis-Bacon and related Acts.

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

Under the Davis-Bacon and related Acts, the contractor is required to pay not less than prevailing wage, including fringe benefits, as predetermined by the Department of Labor. The contractor's obligation to pay fringe benefits may be met either by payment of the fringe benefits to bona fide benefit plans, funds or programs or by making payments to the covered workers (laborers and mechanics) as cash in lieu of fringe benefits.

This payroll provides for the contractor to show on the face of the payroll all monies to each worker, whether as basic rates or as cash in lieu of fringe benefits, and provides for the contractor's representation in the statement of compliance on the payroll (as shown on page 2) that he/she is paying for fringe benefits required by the contract and not paid as cash in lieu of fringe benefits. Detailed instructions concerning the preparation of the payroll follow:

**Contractor or Subcontractor:** Fill in your firm's name and check appropriate box.

**Address:** Fill in your firm's address.

**Payroll No.:** Beginning with the number "1", list the payroll number for the submission.

**For Week Ending:** List the workweek ending date.

**Project and Location:** Self-explanatory.

**Project or Contract No.:** Self-explanatory.

**Column 1- Name and Individual Identifying Number of Worker:** Enter each worker's full name and an individual identifying number (e.g., last four digits of worker's social security number) on each weekly payroll submitted.

**Column 2- No. of Withholding Exemptions:** This column is merely inserted for the employer's convenience and is not a requirement of Regulations, Part 3 and 5.

**Column 3 - Work Classifications:** List classification descriptive of work actually performed by each laborer or mechanic. Consult classification and minimum wage schedule set forth in contract specifications. If additional classifications are deemed necessary, see Contracting Officer or Agency representative. An individual may be shown as having worked in more than one classification provided an accurate breakdown or hours worked in each classification is maintained and shown on the submitted payroll by use of separate entries.

**Column 4 - Hours worked:** List the day and date and straight time and overtime hours worked in the applicable boxes. On all contracts subject to the Contract Work Hours Standard Act, enter hours worked in excess of 40 hours a week as "overtime".

**Column 5 - Total:** Self-explanatory

**Column 6 - Rate of Pay (Including Fringe Benefits):** In the "straight time" box for each worker, list the actual hourly rate paid for straight time worked, plus cash paid in lieu of fringe benefits paid. When recording the straight time hourly rate, any cash paid in lieu of fringe benefits may be shown separately from the basic rate. For example, "\$12.25/.40" would reflect a \$12.25 base hourly rate plus \$0.40 for fringe benefits. This is of assistance in correctly computing overtime. See "Fringe Benefits" below. When overtime is worked, show the overtime hourly rate paid plus any cash in lieu of fringe benefits paid in the "overtime" box for each worker; otherwise, you may skip this box. See "Fringe Benefits" below. Payment of not less than time and one-half the basic or regular rate paid is required for overtime under the Contract Work Hours Standard Act of 1962 if the prime contract exceeds \$100,000. In addition to paying no less than the predetermined rate for the classification which an individual works, the contractor must pay amounts predetermined as fringe benefits in the wage decision made part of the contract to approved fringe benefit plans, funds or programs or shall pay as cash in lieu of fringe benefits. See "FRINGE BENEFITS" below.

**Column 7 - Gross Amount Earned:** Enter gross amount earned on this project. If part of a worker's weekly wage was earned on projects other than the project described on this payroll, enter in column 7 first the amount earned on the Federal or Federally assisted project and then the gross amount earned during the week on all projects, thus "\$163.00/\$420.00" would reflect the earnings of a worker who earned \$163.00 on a Federally assisted construction project during a week in which \$420.00 was earned on all work.

**Column 8 - Deductions:** Five columns are provided for showing deductions made. If more than five deduction are involved, use the first four columns and show the balance deductions under "Other" column; show actual total under "Total Deductions" column; and in the attachment to the payroll describe the deduction(s) contained in the "Other" column. All deductions must be in accordance with the provisions of the Copeland Act Regulations, 29 C.F.R., Part 3. If an individual worked on other jobs in addition to this project, show actual deductions from his/her weekly gross wage, and indicate that deductions are based on his gross wages.

**Column 9 - Net Wages Paid for Week:** Self-explanatory.

**Totals** - Space has been left at the bottom of the columns so that totals may be shown if the contractor so desires.

**Statement Required by Regulations, Parts 3 and 5:** While the "statement of compliance" need not be notarized, the statement (on page 2 of the payroll form) is subject to the penalties provided by 18 U.S.C. § 1001, namely, a fine, possible imprisonment of not more than 5 years, or both. Accordingly, the party signing this statement should have knowledge of the facts represented as true.

**Items land 2:**Space has been provided between items (1) and (2) of the statement for describing any deductions made. If all deductions made are adequately described in the "Deductions" column above, state "See Deductions column in this payroll." See "FRINGE BENEFITS" below for instructions concerning filling out paragraph 4 of the statement.

**Item 4 FRINGE BENEFITS - Contractors who pay all required fringe benefits:** If paying all fringe benefits to approved plans, funds, or programs in amounts not less than were determined in the applicable wage decision of the Secretary of Labor, show the basic cash hourly rate and overtime rate paid to each worker on the face of the payroll and check paragraph 4(a) of the statement on page 2 of the WH-347 payroll form to indicate the payment. Note any exceptions in section 4(c).

**Contractors who pay no fringe benefits:** If not paying all fringe benefits to approved plans, funds, or programs in amounts of at least those that were determined in the applicable wage decision of the Secretary of Labor, pay any remaining fringe benefit amount to each laborer and mechanic and insert in the "straight time" of the "Rate of Pay" column of the payroll an amount not less than the predetermined rate for each classification plus the amount of fringe benefits determined for each classification in the application wage decision. Inasmuch as it is not necessary to pay time and a half on cash paid in lieu of fringe benefits, the overtime rate shall be not less than the sum of the basic predetermined rate, plus the half time premium on basic or regular rate, plus the required cash in lieu of fringe benefits at the straight time rate. In addition, check paragraph 4(b) of the statement on page 2 the payroll form to indicate the payment of fringe benefits in cash directly to the workers. Note any exceptions in section 4(c).

#### **Use of Section 4(c), Exceptions**

Any contractor who is making payment to approved plans, funds, or programs in amounts less than the wage determination requires is obliged to pay the deficiency directly to the covered worker as cash in lieu of fringe benefits. Enter any exceptions to section 4(a) or 4(b) in section 4(c). Enter in the Exception column the craft, and enter in the Explanation column the hourly amount paid each worker as cash in lieu of fringe benefits and the hourly amount paid to plans, funds, or programs as fringe benefits. The contractor must pay an amount not less than the predetermined rate plus cash in lieu of fringe benefits as shown in section 4(c) to each such individual for all hours worked (unless otherwise provided by applicable wage determination) on the Federal or Federally assisted project. Enter the rate paid and amount of cash paid in lieu of fringe benefits per hour in column 6 on the payroll. See paragraph on "Contractors who pay no fringe benefits to approved plans, funds, or programs" for instructions on overtime rate.

**Public Burden Statement:** We estimate that it will take an average of 55 minutes to complete this collection of information, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection of information, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W., Washington, D.C. 20210.

**Note:** In order to view, fill out, and print PDF forms, you need Adobe® Acrobat® Reader® version 5 or later, which you may download for free at [www.adobe.com/products/acrobat/readstep2.htm](http://www.adobe.com/products/acrobat/readstep2.htm).

[Worker Rights](#)   [For Employers](#)   [Resources](#)   [Interpretive Guidance](#)   [State Laws](#)



**Wage and Hour Division**

An agency within the U.S.  
Department of Labor

200 Constitution Ave NW  
Washington, DC 20210  
[1-866-4-US-WAGE](tel:1-866-4-US-WAGE)  
[1-866-487-9243](tel:1-866-487-9243)  
[www.dol.gov](http://www.dol.gov)

**FEDERAL GOVERNMENT**

White House  
Coronavirus Resources  
Disaster Recovery Assistance  
DisasterAssistance.gov  
USA.gov  
No Fear Act Data  
U.S. Office of Special Counsel

**LABOR DEPARTMENT**

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**PAYROLL**

(For Contractor's Optional Use; See Instructions at [www.dol.gov/whd/forms/wh347instr.htm](http://www.dol.gov/whd/forms/wh347instr.htm))



Rev. Dec. 2008

Persons are not required to respond to the collection of information unless it displays a currently valid OMB control number.

OMB No.:1235-0008  
Expires: 07/31/2024

NAME OF CONTRACTOR <input type="checkbox"/> OR SUBCONTRACTOR <input type="checkbox"/>				ADDRESS				OMB No.:1235-0008 Expires: 07/31/2024											
PAYROLL NO.		FOR WEEK ENDING			PROJECT AND LOCATION				PROJECT OR CONTRACT NO.										
(1) NAME AND INDIVIDUAL IDENTIFYING NUMBER (e.g., LAST FOUR DIGITS OF SOCIAL SECURITY NUMBER) OF WORKER	(2) NO. OF WITHHOLDING EXEMPTIONS	(3) WORK CLASSIFICATION	OT OR ST	(4) DAY AND DATE							(5) TOTAL HOURS	(6) RATE OF PAY	(7) GROSS AMOUNT EARNED	(8) DEDUCTIONS					(9) NET WAGES PAID FOR WEEK
				HOURS WORKED EACH DAY											FICA	WITH- HOLDING TAX		OTHER	
			O										/						
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**Public Burden Statement**

We estimate that it will take an average of 55 minutes to complete this collection, including time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. If you have any comments regarding these estimates or any other aspect of this collection, including suggestions for reducing this burden, send them to the Administrator, Wage and Hour Division, U.S. Department of Labor, Room S3502, 200 Constitution Avenue, N.W. Washington, D.C. 20210

Date \_\_\_\_\_

I, \_\_\_\_\_  
 (Name of Signatory Party) (Title)

do hereby state:

(1) That I pay or supervise the payment of the persons employed by

\_\_\_\_\_ on the  
 (Contractor or Subcontractor)

\_\_\_\_\_ ; that during the payroll period commencing on the  
 (Building or Work)

\_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, and ending the \_\_\_\_\_ day of \_\_\_\_\_,

all persons employed on said project have been paid the full weekly wages earned, that no rebates have been or will be made either directly or indirectly to or on behalf of said

\_\_\_\_\_ from the full  
 (Contractor or Subcontractor)

weekly wages earned by any person and that no deductions have been made either directly or indirectly from the full wages earned by any person, other than permissible deductions as defined in Regulations, Part 3 (29 C.F.R. Subtitle A), issued by the Secretary of Labor under the Copeland Act, as amended (48 Stat. 948, 63 Stat. 108, 72 Stat. 967; 76 Stat. 357; 40 U.S.C. § 3145), and described below:

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

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

(4) That:

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

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

(b) WHERE FRINGE BENEFITS ARE PAID IN CASH

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

(c) EXCEPTIONS

EXCEPTION (CRAFT)	EXPLANATION

REMARKS:  
 \_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

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

THE WILLFUL FALSIFICATION OF ANY OF THE ABOVE STATEMENTS MAY SUBJECT THE CONTRACTOR OR SUBCONTRACTOR TO CIVIL OR CRIMINAL PROSECUTION. SEE SECTION 1001 OF TITLE 18 AND SECTION 3729 OF TITLE 31 OF THE UNITED STATES CODE.

# EMPLOYEE RIGHTS

## UNDER THE DAVIS-BACON ACT

### FOR LABORERS AND MECHANICS EMPLOYED ON FEDERAL OR FEDERALLY ASSISTED CONSTRUCTION PROJECTS

#### PREVAILING WAGES

You must be paid not less than the wage rate listed in the Davis-Bacon Wage Decision posted with this Notice for the work you perform.

#### OVERTIME

You must be paid not less than one and one-half times your basic rate of pay for all hours worked over 40 in a work week. There are few exceptions.

#### ENFORCEMENT

Contract payments can be withheld to ensure workers receive wages and overtime pay due, and liquidated damages may apply if overtime pay requirements are not met. Davis-Bacon contract clauses allow contract termination and debarment of contractors from future federal contracts for up to three years. A contractor who falsifies certified payroll records or induces wage kickbacks may be subject to civil or criminal prosecution, fines and/or imprisonment.

#### APPRENTICES

Apprentice rates apply only to apprentices properly registered under approved Federal or State apprenticeship programs.

#### PROPER PAY

If you do not receive proper pay, or require further information on the applicable wages, contact the Contracting Officer listed below:

or contact the U.S. Department of Labor's Wage and Hour Division.



WAGE AND HOUR DIVISION  
UNITED STATES DEPARTMENT OF LABOR

1-866-487-9243  
TTY: 1-877-889-5627  
[www.dol.gov/whd](http://www.dol.gov/whd)



## **Register your Business with the System of Award Management (SAM)**

You need to register your business with the federal government's SAM, the primary database of vendors doing business with the federal government. This registration is sometimes referred to as "self-certifying" your small business. Federal Acquisitions Regulations (FAR) require all prospective vendors to be registered in SAM prior to the award of a contract, basic agreement, basic ordering agreement, or blanket purchase agreement.

Using SAM you will be able to register your business size and socio-economic status while completing the required solicitation clauses and certification. By completing your required solicitation clauses and certifications you certify that the information provided about your company and its business activities are correct.

SAM is also a marketing tool for businesses. SAM allows Government agencies and contractors to search for your company based on your ability, size, location, experience, ownership and more. SAM also informs searchers of firms certified by the SBA under the 8(a) Development and HUBZone Programs.

[www.sam.gov](http://www.sam.gov)

### **ALERT: SAM IS FREE TO REGISTER**

There is NO FEE to register, or maintain your registration, in the System for Award Management ([SAM.gov](http://SAM.gov)). If you receive an email from a company claiming to represent [SAM.gov](http://SAM.gov), be cautious. If you get an e-mail from a company offering to help you register in [SAM.gov](http://SAM.gov) asking you to contact them and pay them money, be cautious. These messages are not from the Federal Government. It is FREE TO REGISTER in [SAM.gov](http://SAM.gov) for any entity. It is also free to get help with your registration.

### **To create an account and access SAM as a new user:**

**Step 1:** Go to [www.sam.gov](http://www.sam.gov).

**Step 2:** Click on "Create a User Account."

**Step 3:** Choose Account Type:

**Create an Individual User Account** to perform tasks such as register/update your entity, create and manage exclusion records or to view FOUO level data for entity records.



**Create a System User Account** if you need system-to-system communication or if performing data transfer from SAM to your government database system. Complete the requested information, and then click “Submit.”

**Step 4:** Click “DONE” on the confirmation page. You will receive an email confirming you have created a user account in SAM.

**Step 5:** Click the validation link in the email that contains the activation code within 48 hours to activate your user account. If the email link is not hyperlinked (i.e., underlined or appearing in a different color), please copy the validation link and paste it into the browser address bar. You can now register an entity. If you are a designated government official you can search For Official Use Only (FOUO) information and enter exclusions into the system.

**Step 6:** If you are an organization, business, government agency or grantee (known in SAM as an “entity”), you must also register your entity in SAM. NOTE: Creating a user account does not create a registration in SAM, nor will it update/renew an existing registration in SAM.

**To register in SAM as an entity:**

**Step 1:** Login to SAM with your user ID and password.

**Step 2:** Gather all of the required information needed to complete your registration.

**Step 3:** Click on "Register New Entity" from the left side navigation pane. Then click “Start Registration” near the bottom of the registration overview page.

**Step 4:** Complete and submit the online registration. It is estimated that it will take approximately 45 minutes to complete registration if you already have all the necessary information on hand, depending upon the size and complexity of your entity.

**Step 5:** You will receive a “congratulations message” from SAM.gov after registration has been successfully submitted and an email confirming that your registration is in process. Note that new registrations can take an average of 7-10 business days to process in SAM. SAM must send out some information for validation with outside parties before your registration can be activated; this includes TIN validation with the IRS and CAGE validation/assignment with DoD. This timeframe may be longer if the information you provide is flagged for manual validation by either party. If you notice your registration has had a ‘Submitted’ status for longer than 10 business days, and you have not otherwise been contacted to correct or update information, please contact the Federal Service Desk at 866-606-8220 or <https://www.fsd.gov>.

**To update your entity's SAM registration, follow the below steps:**

**Step 1.** Go to the SAM Homepage: [www.sam.gov](http://www.sam.gov).

**Step 2.** Login first by entering your username and password in the top right-hand corner and then click the "Log In" button.

**Step 3.** Select "Register/Update Entity" on the left-side of your screen.

**Step 4.** You will see options for "Complete Registrations", "Incomplete Registrations" and "Inactive Registrations." Click on "Complete Registrations" if your registration is noted as Active.

**Step 5.** Click on "Incomplete or Inactive," if you have changes that you want to enter. Please select the entity record that you want to update from the Entity List box and click the "Update" button.

**For SAM Customer Service, contact:**

**Federal Service Desk**

**URL:** [www.fsd.gov](http://www.fsd.gov)

**Hours: 8am - 8pm (Eastern Time)**

**866-606-8220**

If you press the HELP tab, you will find:

- [Quick User Guides](#)
- [Full User Guide](#)
- [Helpful Hints](#)
- [Demonstration Videos](#)
- [Exclusions Information](#)
- [External Resources](#)

If you are unable to find an answer to your question using search, you can select



to

submit a ticket or you can select



to chat with the FSD Service Desk.