

STATE OF NEW HAMPSHIRE  
DEPARTMENT OF NATURAL AND CULTURAL RESOURCES  
**DIVISION OF PARKS AND RECREATION**  
**CAPITAL PROJECTS & MAINTENANCE**

***PARKING LOT & SEAWALL REPAIRS***  
***NORTH HAMPTON BEACH STATE PARK***  
***NORTHHAMPTON, NH***

**SPECIFICATIONS**

**PROJECT # CAP-2419**



APRIL 9, 2024

**STATE OF NEW HAMPSHIRE  
DEPARTMENT OF NATURAL AND CULTURAL RESOURCES  
DIVISION OF PARKS AND RECREATION  
CAPITAL PROJECTS & MAINTENANCE  
172 Pembroke Road  
Concord, NH 03301  
Tel. (603) 271-2606 Fax (603) 271-2629**

**SPECIFICATIONS  
PARKING LOT & SEAWALL REPAIRS  
NORTH HAMPTON BEACH STATE PARK  
NORT HAMPTON, NH**

**PROJECT # CAP-2419**

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172 Pembroke Road  
Concord, N.H. 03301  
TEL. 603-271-2606 FAX 603-271-2629

**NOTICE TO BIDDERS**

Project: #CAP-2419 PARKING LOT & SEAWALL REPAIRS AT NORTH HAMPTON  
BEACH STATE PARK NORTH HAMPTON, NH

Sealed bid proposals for the above project will be accepted until 2:00 P.M., prevailing time, on Thursday May 2, 2024. Proposals should be mailed to: Attn: Edward Mussey Public Works Project Manager I Department of Natural and Cultural Resources 172 Pembroke Road, Concord, NH 03301.

Specifications will be available to interested contractors at the Capital Projects & Maintenance Office on April 10, 2024. They may also be viewed at the following locations:

1. Construction Summary of New Hampshire Inc. 734 Chestnut Street, Manchester, NH 03104 Tel. (603) 627-8856.
2. Alpha Graphics 933 Islington Street, Portsmouth, NH 03801 Tel. (603) 436-3030
3. McGraw-Hill Construction Plan Room 34 Crosby Drive Suite 201 Bedford, MA, 03170 Tel. (781) 430-2006
4. Signature Digital Imaging, 472 Amherst St. Unit 23 Nashua, NH 03063 Tel. (603) 624-4025
5. Works in Progress, 20 Farrell Street, Suite 103, South Burlington, VT 05403 Tel. 1-800-669-7048
6. New Hampshire Department of Administrative Services Bureau of Purchase and Property Website <http://admin.state.nh.us/purchasing/vendorresources.asp>
7. New Hampshire State Parks Website <http://www.nhstateparks.org/partner-and-community-resources/rfps-and-projects.aspx>

All companies, corporations, and tradenames bidding must be registered and have a certificate of existence from the Secretary of State, Corporate Division (telephone 603-271-3244) in order to do business with the State of New Hampshire.

**All bidders will be required to attend the mandatory pre-bid conference at North Hampton Beach State Park Rye, NH. at 10:00 a.m. sharp, on Tuesday April 23, 2024. Please contact Edward Mussey at 603-271-3973 or by e-mail [Edward.V.Mussey@dncr.nh.gov](mailto:Edward.V.Mussey@dncr.nh.gov) at least 24 hours prior to the bid conference if you will be attending.**

Bid Proposals must be made out on the forms provided in the specifications packet and submitted in a sealed envelope marked: "Bid Proposal": Parking Lot & Seawall Repairs, North Hampton Beach State Park, Project No. CAP-2419

---

Edward V Mussey  
Public Works Project Manager I

STATE OF NEW HAMPSHIRE  
DEPARTMENT OF NATURAL AND CULTURAL RESOURCES  
DIVISION OF PARKS AND RECREATION  
CAPITAL PROJECTS & MAINTENANCE  
172 Pembroke Road  
Concord, N.H. 03301  
TEL. 603-271-2606 FAX 603-271-2629

**BID PROPOSAL FORM**

**PROJECT: #CAP-2419** PARKING LOT & SEAWALL REPAIRS  
NORTH HAMPTON BEACH STATE PARK  
NORTH HAMPTON, NH

**MANDATORY PRE BID CONFERENCE:** April 23, 2024 at 10:00 a.m. Sharp

**DATE BID OPENING:** May 2, 2024 at 2:00 p.m. Sharp.

**START DATE:** May 29, 2024

**COMPLETION DATE:** No later than July 30, 2024

Sealed bid proposals for the above project will be accepted until 2:00 p.m., prevailing time, on May 2, 2024  
Bids should be MAILED TO: Attn: Edward Mussey Public Works Project Manager I Department of Natural  
and Cultural Resources, 172 Pembroke Road, Concord, NH 03301 Please note on the outside of the  
envelope "Bid Proposal" Parking lot & Seawall repairs North Hampton Beach State Park. Project No. CAP-  
2419.

**DATE:** \_\_\_\_\_

**PROPOSAL OF:** \_\_\_\_\_  
(Bidders Name)

\_\_\_\_\_  
(Bidders Address)

**TOTAL LUMP SUM OF CONTRACT:** \_\_\_\_\_  
(Enter the number from Bid Proposal Page 4)

STATE OF NEW HAMPSHIRE  
DEPARTMENT OF NATURAL AND CULTURAL RESOURCES  
DIVISION OF PARKS AND RECREATION  
CAPITAL PROJECTS & MAINTENANCE

**PROPOSAL**

Proposal of...

---

(Bidders name)

---

(Bidders address)

To furnish and deliver all materials except as noted and to perform all work in accordance with the Contract of the State of New Hampshire, Department of Natural and Cultural Resources for the construction of...

Project #CAP-2419      Parking lot & Seawall Repairs North Hampton Beach State Park, Hampton, NH.

Commissioner  
Department of Natural and Cultural Resources  
172 Pembroke Road  
Concord, N.H. 03301

Commissioner:

In accordance with the advertisement of the Department of NATURAL AND CULTURAL RESOURCES inviting proposals for the project herein before named and in conformity with the Plans and Specifications on file in the office of the Department of Natural and Cultural Resources, \_\_\_\_\_ (firm name) hereby certifies that \_\_\_\_\_ is/are the only person, or persons, interested in this proposal as principals; that this proposal is made without collusion with any person, firm, or corporation; that an examination has been made of the Plans, of the Standard Specifications, and Special Attentions, Supplemental Specifications, and Special Provisions, all of which are attached hereto, and also of the site of the work; and I, or we, propose to furnish all necessary machinery, equipment, tools, labor, and other means of construction, and to furnish all materials specified in the manner and at the time prescribed; and understand that the quantities of work as shown herein are approximate only and are subject to increase or decrease, and further understand that all quantities of work are to be performed at the quoted prices.

To execute the form of contract and begin work within 15 (fifteen) days after the notice to proceed has been received or otherwise delivered to the contractor and to prosecute said work until its completion.

**It is further proposed:**

To furnish a Surety Performance and Payment contract bond in the amount of one hundred percent (100%) of the contract award, if the contract award is Seventy-five thousand dollars (\$75,000) or more, as security for the completion of the contract in accordance with the plans and specifications and contract documents. The surety shall be acceptable to the Commissioner. No Performance and Payment contract bond shall be required on contract awards of less than Seventy-five thousand dollars (\$75,000).

To guarantee all of the work performed under this contract to be done in accordance with the plans and specifications and contract documents.

The undersigned acknowledges receipt of the following addenda, issued during the bidding time, and states that these have been incorporated in the proposal:

Addendum #1 dated \_\_\_\_\_

Addendum #2 dated \_\_\_\_\_

Addendum #3 dated \_\_\_\_\_

Dated \_\_\_\_\_

**SCHEDULE OF VALUES PROJECT # CAP-2419**

**BIDDERS MUST INDICATE DOLLAR AMOUNT OF CONTRACT SUM ALLOCATED TO EACH CATEGORY OF WORK AS DESIGNATED BELOW:** Failure to Complete This Table May Render your Bid Unresponsive.

<b>Category</b>	<b>Quantity</b>	<b>Units</b>	<b>Unit Cost</b>	<b>Subtotal = (Quantity X Unit Cost)</b>
General Conditions	1	Unit		
Maintenance of Concrete (Sewall Mortar Repair)	1	Unit		
Site Clearing	1	Unit		
Excavation	1	Unit		
Granular Fill 304.2 (Sink Hole)	75	Cubic Yards		
12" 1-1/2" Compacted Crushed Gravel 304.3	82	Cubic Yards		
Granite Curbing	124	Linear Feet		
Class F Concrete Flowable Fill 304.2	102	Cubic Yards		
Aggregate Base Courses 304.2 Gravel (Sidewalk)	21	Cubic Yards		
Aggregate Base Courses 304.3 1-1/2" Crushed Gravel (Sidewalk)	12	Cubic Yards		
Asphalt Paving (Parking Lot) Machine Method 5-1/2" Nominal	246	Square Yards		
Asphalt Paving (Sidewalk) Machine Method 3" Nominal	85	Square Yards		
Painted Pavement Markings (Striping & Numbering)	14	Each		
Stone Replacement	350	Tons		
Landscaping Repairs	1	Unit		
Allowance #1	1	Unit	\$25,000	\$25,000
<b>Total Lump Sum (Including All Allowances)</b>				

**ALLOWANCE #1: Unanticipated Modification and/or Additions to Contract Items:**

Include in the Contract, a stipulated sum/price of **\$25,000** for use upon the Project Managers instruction. This Allowance will make money available for modifications and/or additions to contract items due to owner-initiated changes, or for unknown, latent or differing existing conditions, or for the removal of hazardous materials that are encountered by construction.

- a. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Allowance. The cost of the bond for the amount of Allowance shall be included as part of the lump sum base bid.
- b. Funds will be drawn from an Allowance only by Change Order. Contractor can proceed with Change Order Work against Allowance with direction from the Project Manager. The Contractor shall not proceed with any work that will exceed the amount of Allowance remaining.
- c. Credits can only be added to an Allowance by Alteration Order. The Contractor may not use a credit until an Alteration Order is fully executed.
- d. Notwithstanding the Contractors objection, the Project Manager may at any time reduce the funds remaining in the Allowance by Alteration Order.
- e. At Final Payment of the Contract, funds remaining in the Allowance will be credited to the State.

**Total Lump Sum of Contract (Including All Allowances).....**

**NOTE:** The Schedule of values must be completely filled out for the bid to be considered responsive.

**SIGNATURE PAGE**

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

Address \_\_\_\_\_

Phone \_\_\_\_\_

Fax \_\_\_\_\_

Email Address \_\_\_\_\_

Signature of Authorized Bidder \_\_\_\_\_

Print \_\_\_\_\_

Title \_\_\_\_\_

Address of Bidder \_\_\_\_\_

(if different than company)

Names and Addresses of Members of the Firm/Corporation

Name \_\_\_\_\_ address \_\_\_\_\_

Name \_\_\_\_\_ address \_\_\_\_\_

Name \_\_\_\_\_ address \_\_\_\_\_



Notice: This agreement and all of its attachments shall become public upon submission to Governor and Executive Council for approval. Any information that is private, confidential or proprietary must be clearly identified to the agency and agreed to in writing prior to signing the contract.

**AGREEMENT**

The State of New Hampshire and the Contractor hereby mutually agree as follows:

**GENERAL PROVISIONS**

**1. IDENTIFICATION.**

1.1 State Agency Name Department of Natural and Cultural Resources		1.2 State Agency Address 172 Pembroke Rd. Concord, NH 03301	
1.3 Contractor Name		1.4 Contractor Address	
1.5 Contractor Phone Number	1.6 Account Unit and Class	1.7 Completion Date	1.8 Price Limitation
1.9 Contracting Officer for State Agency Edward Mussey, Public Works Project manager I		1.10 State Agency Telephone Number 603-271-3973	
1.11 Contractor Signature  <div style="text-align: right;">Date:</div>		1.12 Name and Title of Contractor Signatory	
1.13 State Agency Signature  <div style="text-align: right;">Date:</div>		1.14 Name and Title of State Agency Signatory	
1.15 Approval by the N.H. Department of Administration, Division of Personnel <i>(if applicable)</i>  By: _____ Director, On: _____			
1.16 Approval by the Attorney General (Form, Substance and Execution) <i>(if applicable)</i>  By: _____ On: _____			
1.17 Approval by the Governor and Executive Council <i>(if applicable)</i>  G&C Item number: _____ G&C Meeting Date: _____			

**2. SERVICES TO BE PERFORMED.** The State of New Hampshire, acting through the agency identified in block 1.1 (“State”), engages contractor identified in block 1.3 (“Contractor”) to perform, and the Contractor shall perform, the work or sale of goods, or both, identified and more particularly described in the attached EXHIBIT B which is incorporated herein by reference (“Services”).

**3. EFFECTIVE DATE/COMPLETION OF SERVICES.**

3.1 Notwithstanding any provision of this Agreement to the contrary, and subject to the approval of the Governor and Executive Council of the State of New Hampshire, if applicable, this Agreement, and all obligations of the parties hereunder, shall become effective on the date the Governor and Executive Council approve this Agreement, unless no such approval is required, in which case the Agreement shall become effective on the date the Agreement is signed by the State Agency as shown in block 1.13 (“Effective Date”).

3.2 If the Contractor commences the Services prior to the Effective Date, all Services performed by the Contractor prior to the Effective Date shall be performed at the sole risk of the Contractor, and in the event that this Agreement does not become effective, the State shall have no liability to the Contractor, including without limitation, any obligation to pay the Contractor for any costs incurred or Services performed.

3.3 Contractor must complete all Services by the Completion Date specified in block 1.7.

**4. CONDITIONAL NATURE OF AGREEMENT.**

Notwithstanding any provision of this Agreement to the contrary, all obligations of the State hereunder, including, without limitation, the continuance of payments hereunder, are contingent upon the availability and continued appropriation of funds. In no event shall the State be liable for any payments hereunder in excess of such available appropriated funds. In the event of a reduction or termination of appropriated funds by any state or federal legislative or executive action that reduces, eliminates or otherwise modifies the appropriation or availability of funding for this Agreement and the Scope for Services provided in EXHIBIT B, in whole or in part, the State shall have the right to withhold payment until such funds become available, if ever, and shall have the right to reduce or terminate the Services under this Agreement immediately upon giving the Contractor notice of such reduction or termination. The State shall not be required to transfer funds from any other account or source to the Account identified in block 1.6 in the event funds in that Account are reduced or unavailable.

**5. CONTRACT PRICE/PRICE LIMITATION/ PAYMENT.**

5.1 The contract price, method of payment, and terms of payment are identified and more particularly described in EXHIBIT C which is incorporated herein by reference.

5.2 Notwithstanding any provision in this Agreement to the contrary, and notwithstanding unexpected circumstances, in no event shall the total of all payments authorized, or actually made hereunder, exceed the Price Limitation set forth in block 1.8. The payment by the State of the contract price shall be the only and the complete reimbursement to the Contractor for all expenses, of whatever nature incurred by the Contractor in the performance

hereof, and shall be the only and the complete compensation to the Contractor for the Services.

5.3 The State reserves the right to offset from any amounts otherwise payable to the Contractor under this Agreement those liquidated amounts required or permitted by N.H. RSA 80:7 through RSA 80:7-c or any other provision of law.

5.4 The State’s liability under this Agreement shall be limited to monetary damages not to exceed the total fees paid. The Contractor agrees that it has an adequate remedy at law for any breach of this Agreement by the State and hereby waives any right to specific performance or other equitable remedies against the State.

**6. COMPLIANCE BY CONTRACTOR WITH LAWS AND REGULATIONS/EQUAL EMPLOYMENT OPPORTUNITY.**

6.1 In connection with the performance of the Services, the Contractor shall comply with all applicable statutes, laws, regulations, and orders of federal, state, county or municipal authorities which impose any obligation or duty upon the Contractor, including, but not limited to, civil rights and equal employment opportunity laws and the Governor’s order on Respect and Civility in the Workplace, Executive order 2020-01. In addition, if this Agreement is funded in any part by monies of the United States, the Contractor shall comply with all federal executive orders, rules, regulations and statutes, and with any rules, regulations and guidelines as the State or the United States issue to implement these regulations. The Contractor shall also comply with all applicable intellectual property laws.

6.2 During the term of this Agreement, the Contractor shall not discriminate against employees or applicants for employment because of age, sex, sexual orientation, race, color, marital status, physical or mental disability, religious creed, national origin, gender identity, or gender expression, and will take affirmative action to prevent such discrimination, unless exempt by state or federal law. The Contractor shall ensure any subcontractors comply with these nondiscrimination requirements.

6.3 No payments or transfers of value by Contractor or its representatives in connection with this Agreement have or shall be made which have the purpose or effect of public or commercial bribery, or acceptance of or acquiescence in extortion, kickbacks, or other unlawful or improper means of obtaining business.

6.4. The Contractor agrees to permit the State or United States access to any of the Contractor’s books, records and accounts for the purpose of ascertaining compliance with this Agreement and all rules, regulations and orders pertaining to the covenants, terms and conditions of this Agreement.

**7. PERSONNEL.**

7.1 The Contractor shall at its own expense provide all personnel necessary to perform the Services. The Contractor warrants that all personnel engaged in the Services shall be qualified to perform the Services, and shall be properly licensed and otherwise authorized to do so under all applicable laws.

7.2 The Contracting Officer specified in block 1.9, or any successor, shall be the State’s point of contact pertaining to this Agreement.

**8. EVENT OF DEFAULT/REMEDIES.**

8.1 Any one or more of the following acts or omissions of the Contractor shall constitute an event of default hereunder (“Event of Default”):

- 8.1.1 failure to perform the Services satisfactorily or on schedule;
- 8.1.2 failure to submit any report required hereunder; and/or
- 8.1.3 failure to perform any other covenant, term or condition of this Agreement.

8.2 Upon the occurrence of any Event of Default, the State may take any one, or more, or all, of the following actions:

8.2.1 give the Contractor a written notice specifying the Event of Default and requiring it to be remedied within, in the absence of a greater or lesser specification of time, thirty (30) calendar days from the date of the notice; and if the Event of Default is not timely cured, terminate this Agreement, effective two (2) calendar days after giving the Contractor notice of termination;

8.2.2 give the Contractor a written notice specifying the Event of Default and suspending all payments to be made under this Agreement and ordering that the portion of the contract price which would otherwise accrue to the Contractor during the period from the date of such notice until such time as the State determines that the Contractor has cured the Event of Default shall never be paid to the Contractor;

8.2.3 give the Contractor a written notice specifying the Event of Default and set off against any other obligations the State may owe to the Contractor any damages the State suffers by reason of any Event of Default; and/or

8.2.4 give the Contractor a written notice specifying the Event of Default, treat the Agreement as breached, terminate the Agreement and pursue any of its remedies at law or in equity, or both.

**9. TERMINATION.**

9.1 Notwithstanding paragraph 8, the State may, at its sole discretion, terminate the Agreement for any reason, in whole or in part, by thirty (30) calendar days written notice to the Contractor that the State is exercising its option to terminate the Agreement.

9.2 In the event of an early termination of this Agreement for any reason other than the completion of the Services, the Contractor shall, at the State’s discretion, deliver to the Contracting Officer, not later than fifteen (15) calendar days after the date of termination, a report (“Termination Report”) describing in detail all Services performed, and the contract price earned, to and including the date of termination. In addition, at the State’s discretion, the Contractor shall, within fifteen (15) calendar days of notice of early termination, develop and submit to the State a transition plan for Services under the Agreement.

**10. PROPERTY OWNERSHIP/DISCLOSURE.**

10.1 As used in this Agreement, the word “Property” shall mean all data, information and things developed or obtained during the performance of, or acquired or developed by reason of, this Agreement, including, but not limited to, all studies, reports, files, formulae, surveys, maps, charts, sound recordings, video recordings, pictorial reproductions, drawings, analyses, graphic representations, computer programs, computer printouts, notes, letters, memoranda, papers, and documents, all whether finished or unfinished.

10.2 All data and any Property which has been received from the State, or purchased with funds provided for that purpose under this Agreement, shall be the property of the State, and shall be returned to the State upon demand or upon termination of this Agreement for any reason.

10.3 Disclosure of data, information and other records shall be governed by N.H. RSA chapter 91-A and/or other applicable law. Disclosure requires prior written approval of the State.

**11. CONTRACTOR’S RELATION TO THE STATE.** In the performance of this Agreement the Contractor is in all respects an independent contractor, and is neither an agent nor an employee of the State. Neither the Contractor nor any of its officers, employees, agents or members shall have authority to bind the State or receive any benefits, workers’ compensation or other emoluments provided by the State to its employees.

**12. ASSIGNMENT/DELEGATION/SUBCONTRACTS.**

12.1 Contractor shall provide the State written notice at least fifteen (15) calendar days before any proposed assignment, delegation, or other transfer of any interest in this Agreement. No such assignment, delegation, or other transfer shall be effective without the written consent of the State.

12.2 For purposes of paragraph 12, a Change of Control shall constitute assignment. “Change of Control” means (a) merger, consolidation, or a transaction or series of related transactions in which a third party, together with its affiliates, becomes the direct or indirect owner of fifty percent (50%) or more of the voting shares or similar equity interests, or combined voting power of the Contractor, or (b) the sale of all or substantially all of the assets of the Contractor.

12.3 None of the Services shall be subcontracted by the Contractor without prior written notice and consent of the State.

12.4 The State is entitled to copies of all subcontracts and assignment agreements and shall not be bound by any provisions contained in a subcontract or an assignment agreement to which it is not a party.

**13. INDEMNIFICATION.** The Contractor shall indemnify, defend, and hold harmless the State, its officers, and employees from and against all actions, claims, damages, demands, judgments, fines, liabilities, losses, and other expenses, including, without limitation, reasonable attorneys’ fees, arising out of or relating to this Agreement directly or indirectly arising from death, personal injury, property damage, intellectual property infringement, or other claims asserted against the State, its officers, or employees caused by the acts or omissions of negligence, reckless or willful misconduct, or fraud by the Contractor, its employees, agents, or subcontractors. The State shall not be liable for any costs incurred by the Contractor arising under this paragraph 13. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the State’s sovereign immunity, which immunity is hereby reserved to the State. This covenant in paragraph 13 shall survive the termination of this Agreement.

**14. INSURANCE.**

14.1 The Contractor shall, at its sole expense, obtain and continuously maintain in force, and shall require any subcontractor or assignee to obtain and maintain in force, the following insurance:

14.1.1 commercial general liability insurance against all claims of bodily injury, death or property damage, in amounts of not less than \$1,000,000 per occurrence and \$2,000,000 aggregate or excess; and

14.1.2 special cause of loss coverage form covering all Property subject to subparagraph 10.2 herein, in an amount not less than 80% of the whole replacement value of the Property.

14.2 The policies described in subparagraph 14.1 herein shall be on policy forms and endorsements approved for use in the State of New Hampshire by the N.H. Department of Insurance, and issued by insurers licensed in the State of New Hampshire.

14.3 The Contractor shall furnish to the Contracting Officer identified in block 1.9, or any successor, a certificate(s) of insurance for all insurance required under this Agreement. At the request of the Contracting Officer, or any successor, the Contractor shall provide certificate(s) of insurance for all renewal(s) of insurance required under this Agreement. The certificate(s) of insurance and any renewals thereof shall be attached and are incorporated herein by reference.

**15. WORKERS' COMPENSATION.**

15.1 By signing this agreement, the Contractor agrees, certifies and warrants that the Contractor is in compliance with or exempt from, the requirements of N.H. RSA chapter 281-A ("*Workers' Compensation*").

15.2 To the extent the Contractor is subject to the requirements of N.H. RSA chapter 281-A, Contractor shall maintain, and require any subcontractor or assignee to secure and maintain, payment of Workers' Compensation in connection with activities which the person proposes to undertake pursuant to this Agreement. The Contractor shall furnish the Contracting Officer identified in block 1.9, or any successor, proof of Workers' Compensation in the manner described in N.H. RSA chapter 281-A and any applicable renewal(s) thereof, which shall be attached and are incorporated herein by reference. The State shall not be responsible for payment of any Workers' Compensation premiums or for any other claim or benefit for Contractor, or any subcontractor or employee of Contractor, which might arise under applicable State of New Hampshire Workers' Compensation laws in connection with the performance of the Services under this Agreement.

**16. WAIVER OF BREACH.** A State's failure to enforce its rights with respect to any single or continuing breach of this Agreement shall not act as a waiver of the right of the State to later enforce any such rights or to enforce any other or any subsequent breach.

**17. NOTICE.** Any notice by a party hereto to the other party shall be deemed to have been duly delivered or given at the time of mailing by certified mail, postage prepaid, in a United States Post Office addressed to the parties at the addresses given in blocks 1.2 and 1.4, herein.

**18. AMENDMENT.** This Agreement may be amended, waived or discharged only by an instrument in writing signed by the parties hereto and only after approval of such amendment, waiver or discharge by the Governor and Executive Council of the State of New Hampshire unless no such approval is required under the circumstances pursuant to State law, rule or policy.

**19. CHOICE OF LAW AND FORUM.**

19.1 This Agreement shall be governed, interpreted and construed in accordance with the laws of the State of New Hampshire except where the Federal supremacy clause requires otherwise. The wording used in this Agreement is the wording chosen by the parties to express their mutual intent, and no rule of construction shall be applied against or in favor of any party.

19.2 Any actions arising out of this Agreement, including the breach or alleged breach thereof, may not be submitted to binding arbitration, but must, instead, be brought and maintained in the Merrimack County Superior Court of New Hampshire which shall have exclusive jurisdiction thereof.

**20. CONFLICTING TERMS.** In the event of a conflict between the terms of this P-37 form (as modified in EXHIBIT A) and any other portion of this Agreement including any attachments thereto, the terms of the P-37 (as modified in EXHIBIT A) shall control.

**21. THIRD PARTIES.** This Agreement is being entered into for the sole benefit of the parties hereto, and nothing herein, express or implied, is intended to or will confer any legal or equitable right, benefit, or remedy of any nature upon any other person.

**22. HEADINGS.** The headings throughout the Agreement are for reference purposes only, and the words contained therein shall in no way be held to explain, modify, amplify or aid in the interpretation, construction or meaning of the provisions of this Agreement.

**23. SPECIAL PROVISIONS.** Additional or modifying provisions set forth in the attached EXHIBIT A are incorporated herein by reference.

**24. FURTHER ASSURANCES.** The Contractor, along with its agents and affiliates, shall, at its own cost and expense, execute any additional documents and take such further actions as may be reasonably required to carry out the provisions of this Agreement and give effect to the transactions contemplated hereby.

**25. SEVERABILITY.** In the event any of the provisions of this Agreement are held by a court of competent jurisdiction to be contrary to any state or federal law, the remaining provisions of this Agreement will remain in full force and effect.

**26. ENTIRE AGREEMENT.** This Agreement, which may be executed in a number of counterparts, each of which shall be deemed an original, constitutes the entire agreement and understanding between the parties, and supersedes all prior agreements and understandings with respect to the subject matter hereof.

## GENERAL CONDITIONS

### GENERAL

This contract is to be governed by all the applicable provisions of these specifications.

This project consists of repairing the parking lot, Sidewalk, Seawall and Stone Placement, at North Hampton Beach State Park, North Hampton NH, as indicated on the attached plans and these specifications.

### BIDDING REQUIREMENTS

Bids shall only be accepted on the official Bid Proposal Forms, attached to these specifications. **Any bids submitted that are not on the official bid proposal forms will not be accepted.**

### CONDITIONS AT SITE OR BUILDING

Bidders shall visit the site and be responsible for having ascertained pertinent local conditions such as: location, accessibility, general character of the site or building, the character and extent of existing work within or adjacent to the site, and any other work being performed thereon at the time of the submission of this bid.

### PERFORMANCE AND PAYMENT BOND

In the event the bid is \$75,000 or more, the contractor shall furnish security by bond or otherwise in an amount equal to 100% of the contract guaranteeing performance and payment. The payment security shall meet the requirements of RSA 447:16.

The performance and payment bond must be returned with the signed contract within 15 days after the contract has been mailed or otherwise delivered to the bidder.

### PROPOSAL GUARANTEE

None Required

### BUILDING PERMIT REQUIRED

NOT REQUIRED

### RIGHT TO WORK IN N.H.

**All bidders must be registered and have a certificate of existence from the New Hampshire Secretary of State, Corporate Division (telephone 603-271-3244) in order to do business with the State of New Hampshire.**

## **PROPOSAL SELECTION**

In most cases the proposal submitted by the qualified bidder with the lowest base bid price shall be selected. However, the Department of Natural and Cultural Resources reserves the right to reject any or all proposals, or advertise for new proposals as it judges to be in the best interest of the state.

## **CONTRACTORS QUALIFICATIONS**

The successful bidder shall provide evidence upon request that they have been in the Guardrail Installation business successfully performing this type, scale, and quality of work for a minimum of five years. At the request of the Project Manager, a comprehensive list of all projects worked on involving Guardrail work in the past two years by the contractor shall be submitted with references.

## **EXECUTION OF CONTRACT**

The Contractor's attention is called to the following:

**EXECUTION AND APPROVAL OF CONTRACT.** The contract shall be signed by the successful Bidder and returned, together with the contract bond, if applicable, within 15 days after the contract has been mailed or otherwise delivered to the Bidder. No contract shall be considered as in effect until it has been fully executed by all the parties thereto and, when the contract amount is more than \$10,000, the award has been concurred in by the Governor and Council.

**FAILURE TO EXECUTE CONTRACT.** Failure to execute the contract within 15 days after the contract has been mailed or otherwise delivered to the successful Bidder shall be just cause for the cancellation of the award. Award may then be made to the next lowest Bidder, or the work may be re-advertised as the Commissioner may decide.

## **STARTING DATE**

The Contractor shall start work after notice to proceed is received. The notice to proceed shall be issued immediately upon contract approval by the Governor and Council, and shall establish the actual construction start date. Failure to start work within 15 calendar days after the start date shall be considered a default of the contract. If the actual start date is later than the advertised start date, the completion date shall be extended by an equivalent number of working days.

## WORKSITE ACCOUNTABILITY

Per RSA 21-I:81-b At the onset of work on any state construction project, the general contractor or designated project construction manager, if any, shall provide to the Department Project Manager a current list of all subcontractors and independent contractors that the general contractor has agreed to use on the job site, with a record of the entity to whom that subcontractor is insured for worker's compensation purposes. This list shall be posted on the jobsite and updated as needed to reflect any new subcontractors or independent contractors.

If it is determined that a subcontractor or independent contractor is present on a state construction site without the contractor's name and direct contracting relationship being posted in a visible location at the worksite, the general contractor or designated project manager shall require the subcontractor or independent contractor to provide the information within 36 hours and to post the information in a visible location at the worksite. If the information is not provided within 36 hours of its request, the general contractor shall suspend the contractor until the information is provided and posted.

## PROTECTION OF EXISTING PROPERTY

It shall be the responsibility of the contractor to protect existing property from damage. Any damage caused by the contractor in the performance of the work shall be repaired or replaced at his expense to the satisfaction of the Department Project Manager.

## CODES

All work performed shall meet the provisions, if applicable, of the 2018 IBC, and any local codes that may apply.

## WORKMANSHIP

All work shall be performed in a neat workmanlike manner by skilled workmen who have been actively engaged in performing the type of work specified under this contract for the last two years.

## CLEAN-UP

All debris from the project shall be cleaned up daily and removed from the site at least on a weekly basis.

## DEFAULT AND TERMINATION OF CONTRACT

If the Contractor...

- (a) Fails to begin the work under the contract within the time specified in the contract, or
- (b) Fails to perform the work with sufficient workmen and equipment or with sufficient materials to assure the prompt completion of said work, or
- (c) Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or
- (d) Discontinues the prosecution of work, or
- (e) Fails to resume work which has been discontinued, within reasonable time after notice to do so, or
- (f) Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or
- (g) Makes an assignment for the benefit of creditors, or
- (h) For any other cause whatsoever, fails to carry on the work in an acceptable manner...

The Commissioner will give notice in writing to the Contractor of such delay, neglect, or default.

If the Contractor or Surety does not proceed in accordance with the Notice, then the Commissioner will, upon written notification from the Project Manager of the fact of such delay, neglect or default, and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the Contractor. The Commissioner may enter into an agreement for the completion of said contract according to the terms and conditions thereof, or use such other methods as in his opinion will be required for the completion of said contract in an acceptable manner.

All extra costs and charges incurred by the Department as a result of such delay, neglect or default, together with the cost of completion of the work under the contract will be deducted from any monies due or which may become due said Contractor. If such expenses exceed the sum which would have been payable under the contract, then the Contractor and the Surety shall be liable and shall pay to the Department, the amount of such excess.



## FAILURE TO COMPLETE THE WORK ON TIME

If the Contractor fails to complete all of the work or sections of the Project, within the time specified in the Contract, the sum given in the schedule that follows will be deducted from any money due the Contractor. This deduction will be made, not as a penalty, but as fixed, agreed liquidation damages for inconvenience to the State and for reimbursing the Department the cost of the Administration of the Contract, including engineering and inspection. Should the amount of money otherwise due the Contractor be less than the amount of such liquidated damages, the Contractor and his Surety shall be liable to the State for such deficiency.

Permitting the Contractor to continue and finish the work after the time fixed for its completion, shall in no way obligate the State to waive any of its rights under the Contract.

When the final acceptance has been duly made by the Project Manager, any liquidated damage charges shall end.

The fixed, agreed, liquidated damages shall be assessed in accordance with the following schedule.

<u>ORIGINAL CONTRACT AMOUNT</u>	<u>AMOUNT OF LIQUIDATED DAMAGES</u>	<u>PER WORKING DAY</u>
From more than:	to and including:	
0.	25,000.	\$ 200.00
25,000.	50,000.	\$ 300.00
50,000.	100,000.	\$ 400.00
100,000.	500,000.	\$ 500.00

## **SUBSTANTIAL COMPLETION & FINAL INSPECTION**

When the work is substantially complete, the Contractor shall submit to the Project Manager, a list of items of work to be completed or corrected. The failure to include any items on such list does not alter the responsibility of the Contractor to complete all work in accordance with the Contract Documents. On the basis of an inspection by the Project Manager which determines that the work is substantially complete, a Certificate of Substantial Completion shall establish the date of substantial completion and state the responsibilities for any damage to the work and insurance, and fix the time limit within which the Contractor shall complete the items listed herein. Warranties required by the Contract documents shall commence on the date of Substantial Completion unless otherwise provided in the Certificate of Substantial Completion.

If the Contractor fails to proceed to complete the items on the "punch list", then in addition to the corrective measures listed in the Certificate of Substantial Completion, the Commissioner may use the monies still due the Contractor to have such items completed and the Contractor shall lose any claim to the monies used.

Upon written notice that the Work is ready for final inspection and acceptance, the Project manager shall promptly make such inspection, and when he finds the Work acceptable under the Contract documents and the Contract fully performed, a Certificate of Final Payment will be issued.

Final inspection will be made by the Project Manager. Incomplete items necessary to complete the project, shall be completed prior to final payment. The completion date for this project is July 30, 2024.

## GUARANTEE OF WORK

- a) Except as otherwise specified, all work shall be guaranteed by the Contractor against defects resulting from the use of inferior materials, equipment or workmanship for two years from the date of substantial completion of the work.
  
- b) If, within any guarantee period, repairs or changes are required in connection with guaranteed work, which in the opinion of the Project Manager, is rendered necessary as a result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, the Contractor shall, promptly upon receipt of notice from the Commissioner, and at his own expense:
  - 1) Place in satisfactory condition in every particular, all of such guaranteed work, correct all defects therein, and...
  
  - 2) Make good all damage to the building or site, or equipment or contents thereof, which in the opinion of the Project Manager, is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, and...
  
  - 3) Make good any work or material, or the equipment and contents of said building or site disturbed in fulfilling any such guarantee.
  
- c) In any case, wherein fulfilling the requirements of the Contract or of any guarantee, embraced in or required thereby, the Contractor disturbs any work guaranteed under another contract, he shall restore such disturbed work to a condition satisfactory to the Project Manager and guarantee such restored work to the same extent as it was guaranteed under such other contracts.
  
- d) If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Commissioner may have the defects corrected and the Contractor and his Surety shall be liable for all expense incurred.
  
- e) All special guarantees applicable to definite parts of the work that may be stipulated in the specifications or other papers forming a part of the Contract shall be subject to the terms of this paragraph during the first year of the life of such special guarantee.

## **PROSECUTION OF WORK**

Upon starting the work within the 15 days set forth by this contract, the Contractor shall prosecute the work a minimum of 8 hours daily per working day until completion, excluding breakdowns or inclement weather. If the Contractor finds it impossible to start the work as stated above, he may make a written request to the Project Manager for an extension of time. Any such request shall be made prior to expiration of the allowable 15 days, and shall contain reasons which the Contractor believes will justify the granting of his request. In his request, the Contractor shall submit his proposed starting date.

## **CHANGES IN THE WORK**

The Project Manager may at any time, by a written order, and without notice to the Sureties, make changes in the Drawings and Specifications and completion date of this contract and within the general scope thereof.

In making any change, the additional cost or credit for the change shall be determined as follows:

- The order shall stipulate the mutually agreed upon lump sum price which shall be added to or deducted from the contract price. The contractor shall furnish an itemized breakdown of the prices used in computing the value of any change that might be ordered.
- If the price change is an addition to the contract price and the work is performed by the general contractor and not a subcontractor, it shall include the contractor's indirect costs as follows: Workmen's Compensation and Employee Liability, Unemployment and Social Security Taxes.
- In addition to the above indirect costs, the general contractor shall be allowed a markup not to exceed ten percent (10%). Said ten percent (10%) shall be all inclusive for overhead, supervision, and profit. In addition to this, an allowance shall be made for performance and payment bond additional premium.
- If the price change is an addition to the contract price and involves the work of the general contractor and subcontractor, the general contractor would be allowed ten percent (10%) on that part of the work performed by him and five percent (5%) on that part of the work performed by the subcontractor. The same percentages shall apply to subcontractors.
- On any change which involves a net credit to the Owner, no allowance for overhead and profit shall be figured.

## INSURANCE REQUIREMENTS

No operations under this contract shall commence unless and until certification of insurance attesting to the below listed requirements have been filed with the Commissioner, approved by the Attorney General, and the Contract approved by the Governor and Council and a Notice to Proceed is issued.

Insurance requirements by paragraphs 1-4 below shall be the responsibility of the Prime Contractor. The Prime Contractor, at his discretion, may make similar requests of any subcontractor.

Following is the summary of minimum insurance requirements:

1. Workmen's Compensation Insurance (In accordance with RSA 281-A.)
  - a. Employers' Liability
    - 1.) \$100,000 each accident
    - 2.) \$500,000 Disease-policy limit
    - 3.) \$100,000 Disease-each employee
2. Commercial General Liability Insurance: Occurrence Form Policy: Include full Contractual Liability (see Indemnification Clause 9)., Explosion, Collapse, and Underground coverage's:
  - a. Limits of Liability:
    - 1.) \$1,000,000 Each Occurrence Bodily injury & Property Damage.
    - 2.) \$2,000,000 General Aggregate-Include per Project Aggregate Endorsement.
    - 3.) \$2,000,000 Products/Completed Operations Aggregate.
    - 4.) State shall be named as an additional named insured.
3. If blasting and/or demolition is required by the Contract, the Contractor or subcontractor shall obtain the respective coverage for those activities, and shall furnish to the Commissioner a certificate of Insurance evidencing the required coverage's prior to commencement of any operations involving blasting and/or demolition.
4. Owner's Protective Liability coverage for the benefit of the State of New Hampshire Department of NATURAL AND CULTURAL RESOURCES.
  - a. Limits of Liability:
    - 1.) \$2,000,000 Each Occurrence
    - 2.) \$3,000,000 Aggregate
5. Commercial Automobile Liability covering all motor vehicles including owned, hired, borrowed, and non-owned vehicles.
  - a. Limits of Liability:
    - 1.) \$1,000,000 Combined Single Limit for Bodily injury & Property Damage
6. Commercial Umbrella Liability
  - a. Limits of Liability:
    - 1.) \$1,000,000 Each Occurrence
    - 2.) 1,000,000 Aggregate

7. Builder's Risk Insurance (Fire and Extended Coverage): **(NOT REQUIRED FOR THIS CONTRACT)**

The Contractor shall insure the work included in the Contract, including extras and change orders, on an "All Risk" basis, on a one hundred percent (100%) completed value basis of the Contract, as modified. Builder's Risk coverage shall include materials located at the Contractor's premises, on-site, in-transit, and at any temporary site. The policy by its own terms or by endorsement shall specifically permit partial or beneficiary occupancy prior to completion or acceptance of the entire work. The policies shall be in the names of the State of New Hampshire Department of Natural and Cultural Resources and the Contractor. The policies shall provide for the inclusion of the names of all other Contractors, Subcontractors, and others employed on the premises as insureds. The policies shall stipulate that the insurance companies shall have no right of subrogation against any Contractors, Subcontractors or other parties employed on the premises.

8. General Insurance Conditions

a. Each policy shall contain a clause prohibiting cancellation or modifications of the policy earlier than thirty (30) days or ten (10) in cases of non-payment of premium after written notice thereof has been received by the State.

9. Indemnification:

a. The Contractor shall indemnify, defend, and hold harmless the State of New Hampshire, its Agencies, and its agents and employees from and against any and all claims, liabilities, suits or penalties arising out of (or which may be claimed to arise out of) acts of omissions of the Contractor or subcontractors in the performance of work covered by the Contract. This covenant shall survive the termination of the Contract. Notwithstanding the foregoing, nothing herein contained shall be deemed to constitute a waiver of the sovereign immunity of the State, which immunity is hereby reserved by the State.

**NOTE:**

In articles 1 - 14 of the General Conditions references to "the Project Manager" shall be understood to mean the Department Project Manager designated by the Capital Project & Maintenance office of the New Hampshire Department of Natural and Cultural Resources.



**BUSINESS NAME/ADDRESS LOCATION**

Legal Entity Name: \_\_\_\_\_

Doing Business As Name: \_\_\_\_\_

Payment Address: \_\_\_\_\_

City/Town: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_ COUNTRY: \_\_\_\_\_

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

City/Town: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_ COUNTRY: \_\_\_\_\_

Telephone #: \_\_\_\_\_ Cell Phone #: \_\_\_\_\_ FAX #: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Website: \_\_\_\_\_ E-Mail (Main Office): \_\_\_\_\_

Electronic Payment Option: Please contact Treasury at [ACHProcessing@treasury.nh.gov](mailto:ACHProcessing@treasury.nh.gov) or visit their website at [Department of Treasury](http://Department of Treasury) for further information on this option. Registration as a vendor must be completed prior to contacting.

**TYPE OF BUSINESS**

(Note: Registration with the NH Secretary of State MUST be done prior to the awarding of any contracts) [Secretary of State Corporate Division Registration](http://Secretary of State Corporate Division Registration) (603) 271-3244

Registered with NH Secretary of State? YES \_\_\_ NO \_\_\_ State Incorporated In: \_\_\_\_\_

DUNS #: \_\_\_\_\_

Select the appropriate designations for your Entity:

Minority Institutions	<input type="checkbox"/>	Minority Owned Large Business	<input type="checkbox"/>	Minority Owned Small Business	<input type="checkbox"/>
Disabled Veteran Business	<input type="checkbox"/>	Svs Disabled Veteran Owned	<input type="checkbox"/>	Veteran Owned Small Business	<input type="checkbox"/>
Physically Challenged Bus	<input type="checkbox"/>	SBA Cert Fin Disadvantaged Bus	<input type="checkbox"/>	SBA Cert Hist Underutilized Bus	<input type="checkbox"/>
Historically Black Colleges	<input type="checkbox"/>	Women Owned Sm Bus	<input type="checkbox"/>	Women Owned Large Businesses	<input type="checkbox"/>
Small Business	<input type="checkbox"/>	SBA Cert Sm Disadvantaged Bus	<input type="checkbox"/>		

**SIGNATURE BLOCK**

I certify the above information to be correct and grant authorization to the State of New Hampshire to investigate any and all facts contained therein, including facility visitation.

Name and Title (print or type): \_\_\_\_\_

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

**RETURN ADDRESS**

(Phone) 603-271-2201  
(Fax) 603-271-2700  
[prch.web@das.nh.gov](mailto:prch.web@das.nh.gov)  
<http://das.nh.gov/purchasing>

DIVISION OF PROCUREMENT & SUPPORT SERVICES  
BUREAU OF PURCHASE AND PROPERTY  
STATE HOUSE ANNEX, ROOM 102  
25 CAPITOL STREET  
CONCORD NH 03301-6398



### STATE OF NEW HAMPSHIRE ALTERNATE W-9 FORM

PLEASE USE THIS FORM TO PROVIDE THE REQUESTED INFORMATION

Pursuant to IRS Regulations, you must furnish your Taxpayer Identification Number (TIN) to the State whether or not you are required to file tax returns. If this number is not provided, you may be subject to a 24% withholding on each payment made to you. To avoid this 24% withholding & to ensure that accurate tax information is reported to the IRS, A RESPONSE IS REQUIRED.

Legal Entity Name: \_\_\_\_\_

Doing Business As Name: \_\_\_\_\_

Payment Address: \_\_\_\_\_

City/Town: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_ COUNTRY: \_\_\_\_\_

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

City/Town: \_\_\_\_\_ STATE: \_\_\_\_\_ ZIP: \_\_\_\_\_ COUNTRY: \_\_\_\_\_

Telephone #: \_\_\_\_\_ Cell Phone #: \_\_\_\_\_ FAX #: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Website: \_\_\_\_\_ E-Mail (Main Office): \_\_\_\_\_

TAXPAYER IDENTIFICATION NUMBER (TIN) as used on IRS tax return

Social Security # (SSN): \_\_\_\_\_ Fed ID # (EIN/FIN): \_\_\_\_\_

**PRINCIPAL ACTIVITY**

Service Provider       Product/Merchandise Provider       Other Provider

List the principal type of service, product or other that is provided: \_\_\_\_\_

Medical/Health Care Services       Legal Services       1099 Grant Reportable

DESIGNATION (select ONLY THOSE which apply to you/your organization as provided to the IRS)

Individual/Sole-Proprietor       Corporation (S)       Government  
 Single Member LLC  
 LLC (C Corporation)       Corporation (C)       Travel/Intern  
 LLC (S Corporation)       Partnership       Refund/Reimbursement  
 LLC (P Partnership)       Estate or Trust       Tax-Exempt

EXEMPTIONS: \_\_\_\_\_ Exemption from FATCA reporting: \_\_\_\_\_

*Under penalty of perjury, I declare that the information provided is true, correct & complete, to the best of my knowledge & belief.*

NAME & TITLE (print or type): \_\_\_\_\_

TELEPHONE #: \_\_\_\_\_ CELL PHONE #: \_\_\_\_\_ FAX #: \_\_\_\_\_

SIGNATURE: \_\_\_\_\_ DATE: \_\_\_\_\_

E-Mail (Main Office): \_\_\_\_\_ Website: \_\_\_\_\_

PLEASE RETURN WHEN COMPLETED TO:  
Email: PRCH.WEB@DAS.NH.GOV  
(Phone) 603-271-2201  
(FAX) 603-271-2700  
<http://das.nh.gov/purchasing>

DIVISION OF PROCUREMENT & SUPPORT SERVICES  
BUREAU OF PURCHASE & PROPERTY  
STATE HOUSE ANNEX – ROOM 102  
25 CAPITOL ST  
CONCORD NH 03301



# APPLICATION AND CERTIFICATE FOR PAYMENT

TO (OWNER):

PROJECT:

APPLICATION NO:

Distribution to:

OWNER

Period to:

ARCHITECT

CONTRACTOR

FROM:

VIA (ARCHITECT):

ARCHITECT'S

PROJECT NO:

CONTRACT DATE:

CONTRACT FOR:

Application is made for Payment, as shown below, in connection with the Contract. Continuation Sheet, AIA Document G703, is attached.

## CONTRACTOR'S APPLICATION FOR PAYMENT

CHANGE ORDER SUMMARY		ADDITIONS	DEDUCTIONS
Change Orders approved in previous months by Owner			
TOTAL		-	
Approved this Month			
Number	Date Approved		
TOTALS		-	-
Net change by Change Orders			\$0.00

- 1. ORIGINAL CONTRACT SUM .....
- 2. Net change by Change Orders .....
- 3. CONTRACT SUM TO DATE .....
- 4. TOTAL COMPLETED & STORED TO DATE .....
- 5. RETAINAGE:
  - a. 10% of Completed Work .....
  - b. 10% of Stored Material .....
  - Total Retainage .....
- 6. TOTAL EARNED LESS RETAINAGE .....
- 7. LESS PREVIOUS CERTIFICATES FOR PAYMENT ..
- 8. CURRENT PAYMENT DUE .....
- 9. BALANCE TO FINISH, PLUS RETAINAGE .....

The undersigned Contractor certifies that to the best of the Contractor's knowledge, information and belief the Work covered by this Application for Payment has been completed in accordance with the Contract Documents, that all amounts have been paid by the Contractor for Work for which previous Certificates for Payment were issued and payments received from the Owner, and that current payment shown herein is now due.

CONTRACTOR:

By:

Date:

State of:

County of:

Subscribed and sworn to before me this \_\_\_\_ day of \_\_\_\_\_, 20\_\_

Notary Public:

My Commission expires:

AMOUNT CERTIFIED ..... \$ \_\_\_\_\_

(Attach explanation if amount certified differs from the amount applied for.)

ARCHITECT:

By:

Date:

This Certificate is not negotiable. The AMOUNT CERTIFIED is payable only to the Contractor named herein. Issuance, payment and acceptance of payment are without prejudice to any rights of the Owner or Contractor under this Contract

## ARCHITECT'S CERTIFICATE FOR PAYMENT

In accordance with the Contract Documents, based on on-site observations and the data comprising the above application, the Architect certifies to the Owner that to the best of the Architect's knowledge, information and belief the Work has progressed as indicated, the quality of the Work is in accordance with the Contract Documents, and the contractor is entitled to payment of the AMOUNT CERTIFIED.

# CONTINUATION SHEET

AIA DOCUMENT G703

AIA Document G702, APPLICATION AND CERTIFICATE FOR PAYMENT, containing

APPLICATION NUMBER:

Contractor's signed Certification is attached.

APPLICATION DATE:

In tabulations below, amounts are stated to the nearest dollar.

PERIOD TO:

Use Column I on Contracts where variable retainage for line items may apply.

ARCHITECTS PROJECT NO:

A ITEM NO.	B DESCRIPTION OF WORK	C SCHEDULED VALUE	D WORK COMPLETED		F MATERIALS PRESENTLY STORED (NOT IN D OR E)	G		H BALANCE TO FINISH (C - G)	I RETAINAGE
			FROM PREVIOUS APPLICATION (D+E)	THIS PERIOD		TOTAL COMPLETED AND STORED TO DATE (D+E+F)	% (G÷C)		
1									
2									
3									
4									
5									
6									
7									
8									
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10									
11									
12									
13									
14									
15									
16									
17									
18									
19									
20									

# CONSTRUCTION SPECIFICATIONS

## TABLE OF CONTENTS

The standard specifications adapted to this project contain the following sections:

### SECTION

010000	General Requirements
015000	Temporary Utilities and Job Conditions
030100	Maintenance of Concrete
310516	Aggregates for Earth Work
311000	Site Clearing
312316	Excavation
312323	Fill
312323.33	Flowable Fill
321123	Aggregate Base Courses
321216	Asphalt Paving
371223	Painted Pavement Markings
353119	Stone Replacement

## **SECTION 010000 - GENERAL REQUIREMENTS**

### **PART 1 GENERAL**

- 1.1 **RELATED DOCUMENTS:** The general provisions of the contract, including General and Supplementary Conditions, and all Division 1 sections of the specifications apply to the work specified in all sections of the Construction Specifications. The sketches and the specifications together comprise the construction documents. Any note in one shall apply to the other. The contractor shall report any discrepancies between the drawings and specifications to the Project Manager for resolution before proceeding with the work involved.
- 1.2 **SUMMARY OF THE WORK:** The intent of the contract is to provide the State with a Asphalt Parking Lot Repairs at North Hampton Beach State Park. The following work items give a general summary of the extent of the work but are not intended to be a complete itemization of the work.
- A. Remove debris from sink hole, salvage granite curbing for re-use.
  - B. Repair Seawall Mortar joints.
  - C. Replace Stones along the base of the seawall.
  - D. Fill Sinkhole
  - E. Pave Parking area with 2 courses of 2 inch asphalt.
  - F. Pave sidewalk with 2" base course & 1" inch wearing course.
  - G. Remove cobbles, boulders and stones from in front of the granite block wall in the area as indicated in the drawings. Install armored stones along the ocean side of the wall for seawall protection.
  - H. Replace concrete barriers.
  - I. Re-stripe parking lot areas.
- 1.3 **PUBLIC ACCESS AND PROTECTION:** The grounds around the site will be open to the public and staff during the time the work is in progress. The contractor shall be responsible for roping off or barricading sufficient area around the work site to keep visitors and state personnel safe from construction hazards.
- 1.4 **COORDINATION WITH SEACOAST REGIONAL MANAGER:** The contractor shall coordinate in advance with the Seacoast Regional Manager Mrs. Meredith Collins (Tel. 603-573-6657) to arrange mutually acceptable times for closing off areas normally accessible to the staff and public, and to insure that suitable alternate access is made available.

**END OF SECTION 010000**

**SECTION 015000 - TEMPORARY UTILITIES & JOB CONDITIONS**

**PART 1 GENERAL**

- 1.1 **TEMPORARY FACILITIES AND SERVICES:** The Contractor shall be responsible for arranging and providing temporary facilities necessary to facilitate his work. The location of same shall be coordinated with and approved by the Project Manager and the Seacoast Regional Manager.

All such services and facilities shall comply with applicable Federal, State and Municipal regulations.

- 1.2 **FIRE PROTECTION:**
- A. The Contractor shall provide and maintain adequate fire protection in the form of fire extinguishers, or other effective means of extinguishing fire, ready for instant use, distributed around the project sites and in and about temporary inflammable structures during construction of work.
  - B. Gasoline and other flammable liquids shall be stored in and dispensed from UL listed safety containers in conformance with National Board of Fire Underwriters' recommendations. Storage shall not be within any DNCR owned buildings.
  - C. Torch-cutting and welding operations performed by subcontractors shall have approval of the general contractor before such work is started, and a chemical extinguisher shall be available on location where such work is in progress.
  - D. Do not light fires in or about premises.

- 1.3 **PROTECTION OF PROPERTY AND THE PUBLIC:** The Contractor shall construct all fences, barricades and protection facilities required for the protection of the public to the satisfaction of the Project Manager. Furnish and install all signs, lights, reflectors, and all such protection facilities as may be required by the Project Manager.

Keep all access roads and walks clear of debris, materials, and construction equipment. Repair streets, drives, curbs, sidewalks, fences, poles and the like where disturbed by construction to the satisfaction of the Project Manager.

- 1.4 **TEMPORARY STORAGE:** Delivery and storage locations shall be coordinated with and approved by the Project Manager.

The contractor shall provide at the site, where directed and maintain in good condition, suitable and substantial weather-tight storage as required for his materials that may be damaged by storage in the open.

- 1.5 **TEMPORARY FIELD OFFICE:** Not Applicable

- 1.6 **TOILETS:** Restroom facilities at North Beach State Park will be made available for the contractors use during the operational season. The contractor shall supply portable toilets for use of construction personnel on the job site.

- 1.7 **CONTRACTORS AND SUBCONTRACTORS MEETINGS:** The Project Manager shall have the right to call together at reasonable times designated by him, representatives of the contractor and subcontractors who shall meet at the office of the contractor or at the job, to

report as to the condition of the work under their charges, or on any other matters pertinent to the conduct of the work.

Such representatives shall be empowered to make at these meetings, definite decisions binding upon their respective employers, regarding all matters pertaining to the work under this contract.

The Contractor shall furnish the Project Manager in writing, the names, addresses and telephone numbers of subcontractors' personnel to be contacted in the event of an out-of-hours emergency at the building site.

- 1.8 **MEASUREMENTS:** Before Submitting a bid, ordering any material, or doing any work, the Contractor shall verify all measurements and shall be responsible for the correctness of same. No extra charge or compensation will be allowed on account of difference between actual dimensions and the measurements indicated on the drawings; any difference which may be found shall be submitted to the Project manager in writing for consideration before proceeding with the work.

Responsibility for work fabricated accurately to field measurements to properly fit the new construction shall be solely that of the contractor, who shall pay all costs involved in correcting any misfitting work as fabricated.

- 1.9 **CUTTING AND PATCHING:** The Contractor shall do all cutting, fitting and patching of his work that may be required to make its several parts come together properly. Expense caused by defective or ill-timed work shall be borne by the contractor. Where field cutting is authorized or directed, provide adequate reinforcement of the weakened area in such form as is approved by the Project Manager.

- 1.10 **OCCUPATIONAL HEALTH AND SAFETY:** These contract documents, and the construction hereby contemplated shall be governed at all times by applicable provisions of all federal laws, including but not limited to the following:

- A. Williams-Steiger occupational Safety and Health Act of 1970, Public Law 91-596
- B. Part 1910 - Occupational Safety and Health Standards, Chapter XVII of Title 29, Code of Federal Regulations
- C. Part 1926 - Safety and Health Regulations for Construction , Chapter XIII of Title 29, Code of Federal Regulations

- 1.11 **PARKING:** Space will be allocated in the parking lots to accommodate a job trailer, vehicles, deliveries and limited storage. (additional storage areas may be made available through arrangements with the Seacoast Regional Manager on an as-needed basis).

- 1.12 **CLEANING:** As properties under the stewardship of the Division of Parks and Recreation, the grounds surrounding the project site will be open to the public and staff during all or part of the course of the work. Consequently, the sites must be kept clean, safe and presentable to the public. Construction debris shall be picked up at the end of each day's work and removed from the sites on at least a weekly basis. At the conclusion of the project, all barricades, equipment, and debris shall be promptly removed from the site.

**END OF SECTION 015000**

## **SECTION 030100 MAINTENANCE OF CONCRETE**

### **PART 1 - GENERAL**

#### **1.01 SUMMARY**

This Specification shall be read as a whole by all parties concerned. Each Section may contain more or less the complete Work of any trade. The Contractor is solely responsible to make clear to the Subcontractors the extent of their Work and coordinate overlapping Work.

**1.02 SYSTEM DESCRIPTION:** This specification describes the patching or overlay of interior and/or exterior vertical and overhead surfaces with a pneumatically placed cementitious, high strength shrinkage-compensated portland cement mortar.

**1.03 RELATED SECTIONS** Not Used

#### **1.04 REFERENCES**

The following standards are applicable to this section:

- ASTM C-39 - Compressive Strength
- ASTM C-496 - Splitting Tensile Strength
- ASTM C-882 Modified - Slant Shear Bond Strength
- ASTM C-157 Modified - Shrinkage
- ASTM C-266 – Setting time

#### **1.05 QUALITY ASSURANCE**

- A. Manufacturing qualifications: The manufacturer of the specified product shall be ISO 9001 certified and have in existence a recognized ongoing quality assurance program independently audited on a regular basis.
- B. Contractor qualifications: Contractor shall be qualified in the field of concrete repair and protection with a successful track record of 5 years or more. Contractor shall maintain qualified personnel who have received product training by a manufacturer's representative.
- C. Store and apply materials in accordance with all safety and weather conditions required by manufacturer or as modified by applicable rules and regulations of local, state and federal authorities having jurisdiction. Consult Safety Data Sheets (SDS) for complete handling recommendations.

#### **1.06 DELIVERY, STORAGE, AND HANDLING**

- A. All materials must be delivered in original, unopened containers with the manufacturer's name, labels, product identification, and batch numbers. Damaged material must be removed from the site immediately.
- B. Store all materials off the ground and protect from rain, freezing or excessive heat until ready for use.
- C. Condition the specified product as recommended by the manufacturer.

#### **1.07 JOB CONDITIONS**

- A. Environmental Conditions: Do not apply material if it is raining or snowing or if such conditions appear to be imminent. Minimum application temperature 45°F (7°C) and rising.
- B. Protection: Precautions should be taken to avoid damage to any surface near the work zone due to mixing and handling of the specified material.

## 1.08 SUBMITTALS

- A. Submit two copies of manufacturer's literature, to include: Product Data Sheets (PDS), and appropriate Safety Data Sheets (SDS).
- B. Submit copy of Certificate of Approved Contractor status by manufacturer.

1.09 **WARRANTY:** Provide a written warranty from the manufacturer against defects of materials for a period of one (1) year, beginning with date of substantial completion of the project.

## **PART 2 - PRODUCTS**

### 2.01 MANUFACTURER

SikaCem®-226 CI, as manufactured by Sika® Corporation, is considered to conform to the requirements of this specification.

### 2.02 MATERIALS

- A. The mortar shall be a blend of selected portland cements, microsilica, fibers, and specially graded aggregates. It shall be applicable for horizontal, vertical, and overhead surfaces.
- B. The materials shall be non-combustible, both before and after cure.
- C. The materials shall be supplied in a factory-proportioned unit.
- D. The cementitious, microsilica mortar must be placeable from 3/8" (9 mm) in depth and greater.
- E. The material shall contain a corrosion inhibitor.

### 2.03 PERFORMANCE CRITERIA

Typical Properties of the mixed polymer-modified, portland cement mortar:

- 1. Yield Approximately 0.4 ft<sup>3</sup> per 50 lb. bag
- 2. Color Concrete gray
- 3. Mixing Ratio 6-7 pints per 50 lb. bag
- 4. Application Thickness Min 3/8" (9 mm); Max 2" (51 mm) for vertical application
- 5. Application Temp Min 4°F (4°C)
- 6. Setting time (ASTM C-266) Initial: 2-3 hours Final: 5-6.5 hours
- 7. Compressive Strength (ASTM C-39) 28 days - 7,000 psi (48.2 MPa)
- 8. Bond strength (ASTM C-469) 28 days - 2,000 psi (13.8 MPa)
- 9. Shrinkage (ASTM C-157 Modified) <0.07%

## **PART 3 – EXECUTION**

### 3.01 SURFACE PREPARATION

- A. Areas to be repaired must be clean, sound, and free of contaminants. All loose and deteriorated concrete shall be removed by mechanical means. Mechanically prepare concrete substrate to obtain a surface profile of ± 1/8" (CSP 6 or greater as per ICRI Guidelines) with a new exposed aggregate surface. Area to be patched shall not be less than 3/8" in depth.
- B. Where reinforcing steel with active corrosion is encountered, sandblast the steel to a white metal finish to remove all contaminants and rust. Where corrosion has occurred due to the presence of chlorides, the steel shall be high pressure washed after mechanical cleaning. Prime steel with 2 coats of Sika® Armatec® 110 EpoCem as per the Product Data Sheet (PDS).



### 3.02 MIXING AND APPLICATION

- A. Mechanically mix in an appropriate sized mortar mixer or with a Sika mud paddle and low speed (400-600 rpm) drill. Pour 6 to 7 pints of water into the mixing container. Add the powder while continuing to mix. Mix to a uniform consistency for a maximum of three minutes. Should smaller quantities be needed, be sure the components are measured in the correct ratio and that the component is uniformly blended before mixing the components together. Mix only that amount of material that can be placed. Do not retemper material.
- B. **PLACEMENT PROCEDURE WET PROCESS:** At time of application, surface should be Saturated Surface Dry (SSD) but hold no standing water. Apply material by spraying or troweling for repairing vertical or overhead surfaces. Shoot the material perpendicular to the surface. This minimizes rebound, creates the smoothest pattern (reduces bumps) and properly encases the rebars. The velocity of the shotcrete is sufficient if, at a distance of 18 to 24", the shotcrete pattern flattens out on contact with the surface and the rebars are encased. After applying the material, allow to stiffen for approx. 10 minutes before removing bumpy areas with a trowel. If a another layer is desired, allow the material to reach initial set. This will take anywhere from 45 minutes to several hours depending on mix consistency, mix and ambient temperature, wind conditions and humidity. Begin and finish a given patch on the same day.

#### **Machine-applied (Wet Spray)**

Important factors to observe during shotcreting:

- 18"-24" nozzle distance
  - 90° angle to substrate
  - consistency of mortar
  - allow to stiffen for 10 minutes before removing bumpy areas with a trowel.
  - use 6-7 pints of water per 50 lbs.
  - use positive displacement pump equipment apply at low or high velocity
- C. As per ACI recommendations for portland cement concrete, curing is required. Moist cure with wet burlap and polyethylene, a fine mist of water or a water-based\* compatible curing compound. Moist curing should commence immediately after finishing and continue for 48 hours. Protect newly applied material from rain, sun, and wind until compressive strength is 70% of the 28 day compressive strength. To prevent from freezing cover with insulating material. Setting time is dependent on temperature and humidity.
- \*Pretesting of curing compound is recommended.
- D. Adhere to all procedures, limitations and cautions for the polymer-modified portland cement mortar in the manufacturers current printed Product Data Sheet (PDS) and literature.

### 3.03 CLEANING

- A. The uncured polymer-modified portland cement mortar can be cleaned from tools with water. The cured polymer modified portland cement mortar can only be removed mechanically.
- B. Leave finished work and work area in a neat, clean condition without evidence of spillovers onto adjacent areas.

END OF SECTION 030100

# **SECTION 310516 - AGGREGATES FOR EARTHWORK**

## **PART 1 GENERAL**

### **1.1 SUMMARY**

- A. Section Includes
  - 1. Coarse Aggregate Materials.
  - 2. Fine Aggregate Materials.
- B. Related Sections:
  - 1. Section 312323 – Fill
  - 2. Section 321123 – Aggregate Base Courses

### **1.2 REFERENCES**

- A. American Association of State Highway and Transportation Officials.
  - 1. AASHTO M147 – Standard Specifications for Materials for Aggregates and Soil-Aggregate Subbase, Base and Surface Courses.
  - 2. AASHTO T180 – Standard Specification for Moisture Density Relations of Soils Using a 4.54-Kg (10 -pound) Ramer and a 457-Millimeter (18-inch.) Drop.
- B. ASTM International:
  - 1. ASTM C136-Standard Test Method for Sieve Analysis of Fine and Coarse Aggregates.
  - 2. ASTM D698-Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).
  - 3. ASTM D1557-Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (56,000 ft-lb/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>)).
  - 4. ASTM D2487-Standard Classification of Soils for Engineering Purposes (Unified Soil Classification System).
  - 5. ASTM D4318-Standard Test Method for Liquid Limit, Plastic Limit, and Plasticity Index of Soils.
- C. NHDOT Standard Specification for Road and Bridge Construction (SSRBC), latest edition.

### **1.3 SUBMITTALS**

- A. Materials Source: Submit name of imported materials suppliers.
- B. Manufacturer's Certificate: Certify products meet or exceed specified requirements.

### **1.4 QUALITY ASSURANCE**

## **PART 2 PRODUCTS**

### **2.1 SUBSTITUTIONS**

- A. Substitutions shall be as specified herein, except, consideration shall be given to other products that meet or exceed those specified if requested five (5) business days prior to the date of the bid opening.

2.2 COARSE AGGREGATE MATERIALS

- A Coarse Aggregate Type A1 Gravel: SSRBC, Section 304 Item 304.2
- B. Coarse Aggregate Type A2 Crushed Gravel: SSRBC, Section 304, item 304.3
- C. Coarse Aggregate Type A3 Structural Fill: SSRBC, Section 508, Item 508.
- D. Coarse Aggregate Type A4 Crushed Stone: crushed stone ; free of shale, clay, friable material, and debris; graded in accordance with ASTM C-33 Standard Stone #67; within the following limits:

Sieve Size	Percent Passing
2 Inches	100
1 Inch	100
¾ inch	90 to 100
5/8 inches	-
3/8 inches	20 to 55
No. 4	0 to 10
No. 8	0 to 5
No. 40	-
No. 200	-

PART 3 EXECUTION

3.1 STOCKPILING

- A. Stockpile materials on site at locations designated by Owner/Project Manager.
- B. Stockpile in sufficient quantities to meet Project schedule and requirements.
- C. Separate different aggregate materials with dividers or stockpile individually to prevent mixing.
- D. Direct surface water away from stockpile site to prevent erosion or deterioration of materials.

3.2 STOCK PILE CLEANUP

- A. Remove stockpile, leave area in clean and neat condition.

END OF SECTION 310516

## **SECTION 311000 SITE CLEARING**

### **PART 1 GENERAL**

#### **1.1 SUMMARY**

- A. Section Includes
  - 1. Removing Surface Debris
  - 2. Removing designated paving, curbs, and associated features.
  - 3. Excavating subbase.

#### **1.2 QUALITY ASSURANCE**

- A. Conform to applicable code for disposal of debris.

### **PART 2 PRODUCTS**

- A. **Not Used**

### **PART 3 EXECUTION**

#### **3.1 EXAMINATION**

- A. Verification of existing conditions before beginning work.
- B. Identify salvage area for placing removed materials.

#### **3.2 PREPERATION**

- A. Call DIG-SAFE (1-888-DIG-SAFE), (1-800-344-7233), (digsafe.com) and the local utility line information service at not less than three working days before performing work.
- B. Locate all existing underground utilities in areas of work, if utilities are to remain in place, provide adequate means of support and protection during earthwork operations.
- C. Should uncharted or incorrectly charted piping or other utilities be encountered during excavation, inform the Project Manager and consult with the utility owner and the Project Manager immediately for directions on how to proceed.
- D. Barricade and post open excavations occurring as part of this work.
- E. Protect structures, utilities, roads, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earthwork operations.

- 3.3 **EXCAVATIONS:** Slope sides of excavations to comply with local codes and ordinances. Shore and brace where sloping is not possible. Maintain sides and slopes of excavations in safe condition until completion of backfilling.

- 3.4 Prevent surface water and subsurface or ground water from flowing into excavations and from flooding project site and surrounding area. Do not allow water to accumulate in excavations. Remove water to prevent softening of foundation bottoms, undercutting footings, and soil changes detrimental to stability of subgrades and foundations.

- 3.5 Stockpile excavated materials acceptable for backfill or fill where directed by the Project Manager. Place, grade, and shape stockpiles for proper drainage. Locate and retain soil materials away from edge of excavations. Dispose of excess excavated soil materials

and materials not acceptable for use as fill or backfill.

- 3.6 **EXCAVATION FOR STRUCTURES:** Conform to elevations and dimensions shown within a tolerance of 0.10 feet. Extend excavation a sufficient distance from footings and foundations to permit placing and removal of concrete, formwork, installation of services, other construction, and for inspection.
- 3.7 **BACKFILL AND FILL:** Place soil material in layers to required subgrade elevations, for each area classification listed below, using materials specified in PART 2 of this section:
- A. Under walks and pavements: Use subbase material, or satisfactory excavated or borrow materials, or a combination of both.
- 3.8 Backfill excavations as promptly as work permits but not until completion of the following:
- A. Acceptance of construction below finish grade.
  - B. Inspection, testing, approval, and recording locations of underground utilities.
  - C. Removal of trash and debris.
- 3.9 **PLACEMENT AND COMPACTION**
- A. Place backfill and fill material in layers not more than 8 inches in loose depth for material compacted by heavy compaction equipment, and not more than 4 inches loose depth for compaction by hand-operated tampers.
  - B. Before compaction, moisten or aerate each layer as necessary to provide optimum moisture content. Compact each layer to required percentage of maximum dry density or related dry density for each area classification. Do not place backfill or fill material on surfaces that are muddy, frozen, or contain frost or ice.
  - C. Percentage of Maximum Density Requirements: Compact soil to not less than the following percentages of maximum density in accordance with ASTM D1557:
    - 1) Under pavements: Compact 12" of subgrade and each layer of backfill or fill material to 95% max density.
- 3.10 **GRADING:** Uniformly grade areas within limits of grading including adjacent transition areas. Grade areas adjacent to building lines to drain away from structures and to prevent ponding. Finish surfaces free from irregular surface changes.
- 3.11 **EROSION CONTROL:** Provide erosion control methods in accordance with Department of Environmental Services' requirements. Take all measures required to prevent silt from draining into adjacent properties.
- 3.12 Repair and re-establish grades in settled, eroded, and rutted areas before substantial completion of project.
- 3.13 **DISPOSAL OF EXCESS AND WASTE MATERIALS:** Remove waste material including unacceptable excavated material, trash, and debris, and dispose of it off State property.

**END OF SECTION 311000**

## **SECTION 312316 – E X C A V A T I O N**

### **PART 1 GENERAL**

#### **1.1 SUMMARY**

A. Section includes:

1. Excavating for Paving, Roads, and Parking Areas.
2. Excavating for exploratory existing site conditions.

B. Related Sections:

1. Section 310513 – Soils for Earthwork
2. Section 310516 – Aggregates for Earthwork
3. Section 312323 - Fill

#### **1.2 REFERENCES**

- A. Local Utility standards when working within 24 inches of utility lines.
- B. NHDOT Standard Specifications for Road and Bridge Construction (SSRBC), latest edition.

#### **1.3 SUBMITTALS**

- A. None

#### **1.4 QUALITY ASSURANCE**

- A. Perform Work in accordance with SSRBC, Section 203.

### **PART 2 PRODUCTS**

- A. Not Used.

### **Part 3 EXECUTION**

#### **3.1 PREPERATION**

- A. Call Local Utility Line Information service Digsafe not less than three working days before performing work.
- B. Identify required lines levels, contours, and datum.
- C. Notify utility company to remove and relocate utilities if necessary.
- D. Protect utilities indicated to remain from damage.
- E. Protect features remaining as portion of finished work.
- F. Protect bench marks, survey control points, existing structures, fences, sidewalks, paving, and curbs from excavating equipment and vehicular traffic.

#### **3.2 EXCAVATION**

- A. Underpin adjacent structures which may be damaged by excavation work.
- B. Excavate subsoil to accommodate paving.
- C. Slope banks with machine to angle of repose or less until shored.
- D. Trim Excavation. Remove Loose matter.
- E. Remove lumped subsoil, boulders, and rock up to 1/3 cu yd measured by volume.
- F. Notify Project Manager of unexpected subsurface conditions.
- G. Correct areas over excavated as directed by Project Manager.
- H. Remove excess and unsuitable material from site.
- I. Repair or replace items indicated to remain damaged by excavation.

**3.3 FIELD QUALITY CONTROL**

- A. Request inspection of excavation and controlled fill operations in accordance with applicable code.
- B. Request visual inspection of bearing surfaces by Project Manager before installing subsequent work.

**3.4 PROTECTION**

- A. Prevent displacement or loose soil from falling into excavation; maintain soil stability.
- B. Protect structures, utilities, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by earth operations.

END OF SECTION 312316

## **SECTION 312323 – F I L L**

### **PART 1 GENERAL**

#### 1.2 SUMMARY

- A. Section includes:
  - 1. Backfilling site structures to subgrade elevations.
  - 2. Fill under paving.
  - 3. Fill for over-excavation.
  
- B. Related Sections:
  - 1. Section 310516 Aggregates for Earthwork

#### 1.3 REFERENCES

- A. American Association of State Highway and Transportation Officials.
  - 1. AASHTO T180 – Standard Specification for Moisture Density Relations of Soils Using a 4.54-Kg (10 -pound) Ramer and a 457-Millimeter (18-inch.) Drop.
- B. ASTM International:
  - 1. ASTM D698-Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (12,400 ft-lb/ft<sup>3</sup> (600 kN-m/m<sup>3</sup>)).
  - 2. ASTM D1557-Standard Test Method for Laboratory Compaction Characteristics of Soil Using Standard Effort (56,000 ft-lb/ft<sup>3</sup> (2,700 kN-m/m<sup>3</sup>)).
- C. NHDOT Standard Specifications for Road and Bridge Construction (SSRBC). Latest edition.

#### 1.4 SUBMITTALS

- A. Product Data: Submit data for geotextile fabric indicating fabric and construction.
- B. Materials Source: Submit name of imported fill materials suppliers.

#### 1.5 QUALITY ASSURANCE

- A. Perform Work in accordance with NHDO Specification, Section 203.

### **PART 2 PRODUCTS**

#### 2.1 FILL MATERIALS

- A. Structural Fill: Type A3 as specified in Section 310516
- B. Granular Fill: Type A1, A2, A6 & A7 as specified in Section 310516

### **PART 3 EXECUTION**

#### 3.1 EXAMINATION

- A. Verify Geotextile Fabric has been installed.

#### 3.2 PREPERATION

- A. Compact subgrade to density requirements for subsequent backfill materials.
- B. Cut out soft areas of subgrade not capable of compaction in place. Backfill with structural fill and compact to density equal to or greater than requirements for



subsequent fill material.

- C. Proof roll to identify soft spots; fill and compact to density equal to or greater than requirements for subsequent fill material.

### 3.3 BACKFILLING

- A. Backfill areas and elevations with unfrozen materials.
- B. Systematically backfill to allow maximum time for natural settlement. Do not backfill over porous, wet, frozen or spongy subgrade surfaces.
- C. Place Materials in Continuous Layers as follows:
  - 1. Subsoil Fill: Maximum 8 inches compacted depth.
  - 2. Structural Fill: Maximum 6 inches compacted depth.
  - 3. Granular Fill: Maximum 8 inches compacted depth.
- D. Employ Placement method that does not disturb or damage adjacent work.
- E. Maintain optimum moisture content of backfill materials to attain required compaction density.
- F. Backfill against supported foundation walls.
- G. Remove Surplus backfill materials from the site.
- H. Leave fill material stockpile area free of excess fill materials.

### 3.5 FIELD QUALITY CONTROL

- A. Proof roll compacted fill surfaces under paving.

### 3.6 SCHEDULE

- A. Fill Under Asphalt Paving:
  - 1. Compact subsoil to 95 percent of its maximum dry density.
  - 2. Fill type A1 to 24 inches below finish paving elevation, compact uniformly to 95 percent of maximum dry density.
- B. Fill to Correct Over-excavation:
  - 1. Fill Type A1, flush to required elevation, compact uniformly to 95 percent of maximum density.

**END OF ECTION 312323**

## **SECTION 31 23 23.33 FLOWABLE FILL**

### **PART 1 - GENERAL**

#### **1.1 INTRODUCTION:**

- A. Flowable fill refers to a cementitious slurry consisting of a mixture of fine aggregate or filler, water, and cementitious material(s), which is used as a fill or backfill in lieu of compacted earth. This mixture is capable of filling all voids in irregular excavations and hard to reach places (such as under undercuts of existing slabs), is self-leveling, and hardens in a matter of a few hours without the need for compaction in layers. Flowable fill is sometimes referred to as controlled density fill (CDF), controlled low strength material (CLSM), lean concrete slurry, and unshrinkable fill.
- B. Flowable fill materials will be used as only as a structural fill replacement. Unless otherwise noted, flowable fill installed as a substitution for structural earth fill, shall not be designed to be removed by the use of hand tools. To produce the compressive strength indicated for the placed location, as determined by the Project Manager.

#### **1.2 DESCRIPTION:**

Furnish and place flowable fill in a fluid condition, that sets within the required time and, after curing, obtains the desired strength properties as evidenced by the laboratory testing of the specific mix design, at locations shown on the plans or as directed by the Project manager, verbally or in writing. This section specifies flowable fill for use as structural fill to remain permanently.

#### **1.3 RELATED WORK:**

- A. Earthwork, excavation and backfill and compaction requirements: Section 31 20 00, EARTH MOVING.

#### **1.4 DEFINITIONS:**

- A. Flowable fill - Ready-mix Controlled Low Strength Material used as an alternative to compacted soil, and is also known as controlled density fill, and several other names, some of which are trademark names of material suppliers. Flowable fill (Controlled Low Strength Material) differs from portland cement concrete as it contains a low cementitious content to reduce strength development for possible future removal. Unless specifically approved otherwise, by the Project Manager, flowable fill shall be designed as a permanent material, not designed for future removal. Design strength for this permanent type flowable fill shall be a

compressive strength of 2.1 MPa (300 psi) minimum at 28 days. Chemical admixtures may also be used in flowable fill to modify performance properties of strength, flow, set and permeability.

#### **1.5 SUBMITTALS:**

- A. Submit SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES.
- B. Flowable fill Mix Design: Provide flowable fill mix design containing cement and water. At the contractor's option, it may also contain fly ash, aggregate, or chemical admixtures in any proportions such that the final product meets the strength and flow consistency, and shrinkage requirements included in this specifications.
  - 1. Test and Performance - Submit the following data:
    - a. Flowable fill shall have a minimum strength of 2.1 MPa (300 psi) according to ASTM C 39 at 28 days after placement.
    - b. Flowable fill shall have minimal subsidence and bleed water shrinkage. Evaporation of bleed water shall not result in shrinkage of more than 10.4 mm per m (1/8 inch per ft.) of flowable fill depth (for mixes containing high fly ash content). Measurement of a Final Bleeding shall be as measured in Section 10 of ASTM C 940 "Standard Test Method for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced-Aggregate Concrete in the Laboratory.
    - c. Flowable fill shall have a unit weight of 1500 - 1900 kg/m<sup>3</sup> (90 - 115 lbs/feet<sup>3</sup>) measured at the point of placement after a 60 minute ready-mix truck ride.
  - C. Provide documentation that the admixture supplier has experience of at least one year, with the products being provided and any equipment required to obtain desired performance of the product.
  - D. Manufacturer's Certificates: Provide Project Manager with a certification that the materials incorporated in the flowable fill, following achievement of the required strength, do not represent a threat to groundwater quality.

#### **1.6 APPLICABLE PUBLICATIONS:**

- A. Publications listed below form a part of this specification to extent referenced. Publications are referenced in text by basic designation only.
- B. American Society for Testing and Materials (ASTM):

- D4832-02 ..... Standard Test Method for Preparation and Testing of Controlled Low Strength Material (CLSM) Test Cylinders.
- C618-03 ..... Standard Specifications for Coal Fly Ash and Raw or Calcined Natural Pozzolan for use as Mineral Admixture in Concrete. (Use Fly Ash conforming to the chemical and physical requirements for mineral admixture, Class F listed, including Table 2 (except for Footnote A). Waive the loss on ignition requirement.)
- C403/C403M-05..... Standard Test Method for Time of Setting of Concrete Mixtures by Penetration Resistance.
- C150-99 Rev.A-04 ..... Standard Specification for Portland Cement
- C33-03 ..... Standard Specification for Concrete Aggregates
- C494/C494M-04..... Standard Specification for Chemical Admixtures for Concrete
- C940 RevA-98 ..... Standard Specification for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced – Aggregate Concrete in the Laboratory

C. American Concrete Institute (ACI):

- SP-150-94..... Controlled Low-Strength Materials

**1.7 QUALITY ASSURANCE:**

- A. Manufacturer: Flowable fill shall be manufactured by a ready-mix concrete producer with a minimum of 1 year experience in the production of similar products.
- B. Materials: For each type of material required for the work of this Section, provide primary materials that are the products of one manufacturer. If not otherwise specified here, materials shall comply with recommendations of ACI 229, “Controlled Low Strength Materials.”
- C. Pre-Approval Procedures: The use of flowable fill during any part of the project shall be restricted to those incidences where, due to field conditions, the Contractor has made the Project Manager aware of the conditions for which he recommends the use of the flowable, and the Project Manager has confirmed those conditions and approved the use of the flowable fill, in advance. During the submittal process, the contractor shall prepare and submit various flowable fill mix designs corresponding to required conditions or if the contractor desires to use flowable fill due to economics. Approval for the strength of the flowable fill

shall be obtained from the Project Manager when the contractor desires, or is required, to use flowable fill at specific location(s) within the project. Prior to commencement of field operations the contractor shall establish procedures to maintain optimum working conditions and to coordinate this work with related and adjacent work.

**1.8 DELIVERY, STORAGE, AND HANDLING:**

Deliver and handle all products and equipment required, in strict compliance with manufacturer's recommendations. Protect from damage due to weather, excessive temperatures, and construction operations.

**1.9 PROJECT CONDITIONS:**

Perform installation of flowable fill only when approved by the Project Manager, and when existing and forecasted weather conditions are within the limits established by the manufacturer of the materials and products used.

**PART 2 - PRODUCTS**

**2.1 MATERIALS:**

Provide flowable fill containing, at a minimum, cementitious materials and water. Cementitious materials shall be portland cement, pozzolanic materials, or other self-cementing materials, or combinations thereof, at the contractor's option. The flowable fill mix design may also contain, fine aggregate or filler, and/or chemical admixtures in any proportions such that the final product meets the strength, flow consistency and shrinkage requirements included in this specification, as approved by the Project Manager.

- A. Portland Cement: ASTM C150, Type 2. Meeting New Hampshire State DOT standards.
- B. Mixing Water: Fresh, clean, and potable.
- C. Air-Entraining Admixture: ASTM C260.
- D. Chemical Admixtures: ASTM C494.
- E. Aggregate: ASTM C33.

**2.2 FLOWABLE FILL MIXTURE:**

- A. Mix design shall produce a consistency that will result in a flowable product at the time of placement which does not require manual means to move it into place.
- B. Flowable fill shall have a minimum strength of 2.1 MPa (300 psi) according to ASTM C39 at 28 days after placement.

- C. Flowable fill shall have minimal subsidence and bleed water shrinkage. Evaporation of bleed water shall not result in shrinkage of more than 10.4 mm per m (1/8 inch per foot) of flowable fill depth (for mixes containing high fly ash content). Measurement of a Final Bleeding shall be as measured in Section 10 of ASTM C 940 "Standard Test Method for Expansion and Bleeding of Freshly Mixed Grouts for Preplaced-Aggregate Concrete in the Laboratory.
- D. Flowable fill shall have a unit weight of 1500 - 1900 kg/m<sup>3</sup>(90 - 115 lbs/feet<sup>3</sup>) measured at the point of placement after a 60 minute ready-mix truck ride. In the absence of strength data the cementitious content shall be a maximum of 90 kg/m<sup>3</sup> (150 lbs/cy).
- E. Flowable fill shall have an in-place yield of at least 98% of design yield for permanent type.
- F. Provide equipment as recommended by the Manufacturer and comply with manufacturer's recommendations for the addition of additives, whether at the production plant or prior to placement at the site.

### **PART 3 - EXECUTION**

#### **3.1 EXAMINATION:**

Examine conditions of substrates and other conditions under which work is to be performed and notify Project Manager, in writing, of circumstances detrimental to the proper completion of the work. Do not proceed until unsatisfactory conditions are corrected.

#### **3.2 APPLICATION OF FLOWABLE FILL:**

Secure tanks, pipes and other members to be encased in flowable fill. Insure that there are no exposed metallic pipes, conduits, or other items that will be in contact with the flowable fill after placement. If so, replace with non-metallic materials or apply manufacturers recommended coating to protect metallic objects before placing the flowable fill. Replacement or protection of metallic objects is subject to the approval of the Project Manger.

#### **3.3 PROTECTION AND CURING:**

Protect exposed surfaces of flowable fill from premature drying, wash by rain or running water, wind, mechanical injury, and excessively hot or cold temperature. Curing method shall be subject to approval by Project Manager.

END OF SECTION

## **SECTION 321123 - AGGREGATE BASE COURSES**

### **PART 1 GENERAL**

#### 1.1 SUMMARY

##### A. SECTION INCLUDES

1. Aggregate subbase
2. Aggregate base course

##### B. Related Sections

1. Section 312213 Rough Grading: Preparation of site for base courses.
2. Section 312323 Fill: Compacted fill under base course.
3. Section 320516 Aggregates for Exterior Improvements.
4. Section 321216 Asphalt Paving.

#### 1.2 REFERENCES

- A. American Association of State Highway and Transportation Officials:
- B. NHDOT Standard Specification for Road and Bridge Construction (SSRBC), latest edition.

#### 1.3 SUBMITTALS

- A. Materials Source: Submit Name of Aggregate Materials Suppliers.

#### 1.4 QUALITY ASSURANCE

- A. Furnish each aggregate material from single source throughout the work.
- B. Perform Work in accordance with NHDOT Standards.

### **PART 2 PRODUCTS**

#### 2.1 AGGREGATE MATERIALS

- A. Subbase Aggregate: Fill Type A1 as specified in Section 310516
- B. Base Aggregate: Fil Type 2 as specified in Section 310516

#### 2.2 ACCESSORIES

- A. Geotextile Fabric: Conforming to SSRBC, Section 593, Item 593.222

### **PART 3 EXECUTION**

#### 3.1 EXAMINATION

- A. Verify compacted substrate is dry and ready to support paving and imposed loads.
  1. Proof roll substrate with minimum two perpendicular passes to identify soft spots.
  2. Remove soft substrate and replace with compacted fill as specified in Section 312323.
- B. Verify Substrate has been inspected, gradients and elevations are correct.

#### 3.2 PREPERATION

- A. Correct irregularities in substrate gradient and elevation by scarifying, reshaping, and re-compacting.
- B. Do not place fill on soft, muddy or frozen surfaces.

### 3.3 AGGREGATE PLACEMENT

- A. Spread aggregate over prepared substrate to total compacted thickness as indicated on the drawings.
- B. Roller compact aggregate to 95 percent maximum density.
- C. Level and contour surfaces to elevations, profiles and gradients as required.
- D. Maintain optimum moisture content of fill materials to attain specified compaction density.
- E. Use mechanical tamping equipment in areas inaccessible to compaction equipment.

### 3.4 TOLERANCES

- A. Maximum Variation From Flat Surface:  $\frac{1}{4}$  inch measured with 10 foot straight edge.
- B. Maximum Variation From Thickness:  $\frac{1}{4}$  inch.
- C. Maximum Variation From Elevation  $\frac{1}{2}$  inch.

END OF SECTION 321123



## **SECTION 321216 - ASPHALT PAVING**

### **PART 1 GENERAL**

#### **1.1 SECTION INCLUDES**

- A. Paving, hand method and machine method
- B. Pavement patching.
- C. Sawed Pavement

#### **1.2 REFERENCES:** All work performed under these Specifications shall be subject to the following references:

- A. State of New Hampshire Department of Transportation, "Standard Specifications for Road and Bridge Construction" approved and adopted 2016, together with all revisions, addenda, special provisions and supplements issued thereto, except as noted below.
  - 1. All portions of the SSRBC relating to "Basis of Payment" and Method of Measurement shall not apply to this project.
  - 2. Division 100, General Provisions of the SSRBC shall not apply to this project except for provisions of Division 100 referenced in Division 200 through 700, to the extent that those provisions do not conflict with the "General Conditions for public Works Projects," Paragraph 1 above, and other express provisions of this contract.
  - 3. Various technical provisions of some sections of the SSRBC are modified by other Division 2 and 3 Sections of these Specifications, and such modifications shall take precedence over the SSRBC provisions.
  - 4. All applicable technical provisions of the SSRBC shall be considered effective for work under this Division unless expressly noted otherwise in the Contract Documents.
  - 5. Copies of the SSRBC may be obtained from the New Hampshire Department of Transportation, John O. Morton Building, Hazen Drive, Concord, New Hampshire or online at: <https://www.dot.nh.gov/about-nh-dot/divisions-bureaus-districts/highway-design/highway-standard-specifications/2016>
- B. If there are any conflicts between references the most stringent reference, as determined by the Project Manager , shall apply.

#### **1.3 QUALITY CONTROL, TESTING, AND REPORTING**

- A. Material Certificates: The Contractor shall submit to the Project Manager sworn material certificates from the suppliers of bituminous concrete. The certificates shall indicate that the materials provided are in every way in conformance with the requirements of these Specifications.
- B. All pavement shall be graded so that no water puddles. Any pavement that does not drain shall be removed, re-graded, and re-paved to correct any drainage problems.
- C. Equipment shall be in good operating condition. There shall be sufficient equipment on site to provide continuous operation. If there is insufficient equipment or the equipment is not functioning properly the contractor will not be allowed to begin paving until the deficiency is corrected.

#### **1.4 REGULATORY REQUIREMENTS**

- A. The contractor shall comply with all State and Federal environmental regulations regarding the making and placement of pavement.

### **PART 2 PRODUCTS**

## 2.1 BITUMINOUS CONCRETE PAVEMENT

- A. Asphalt Materials:
  - 1. Asphalt Binder: In accordance with SSRBC, Section 401
  - 2. Asphalt Cement: In accordance with SSRBC, Section 401
  - 3. Primer: in accordance with SSRBC, Section 401
- B. Aggregate Materials:
  - 1. Coarse Aggregate: In accordance with SSRBC, Section 401
  - 2. Fine Aggregate: In accordance with SSRBC, Section 401
  - 3. Mineral Filler: In accordance with SSRBC, Section 401
- C. Aggregate Subbase: Specified in section

## 2.2 MIXES

- A. Use dry material to avoid foaming. Mix uniformly.
- B. Asphalt Paving Mixture designed in accordance with SSRBC section 401.

## 2.3 ACCESSORIES

- A. Geotextile Fabric: Conforming to SSRBC, Section 593, item 593.222.

## PART 3 EXECUTION

### 3.1 EXAMINATION

- A. Verify compacted subbase is dry and ready support paving and imposed loads.
  - 1. Proof roll subbase with minimum two perpendicular passes to identify soft spots.
  - 2. Remove soft subbase and replace with compacted fill as specified in Section 313223.
- B. Verify gradients and elevations of base are correct.
- C. Verify all project items within limits of pavement are installed in correct position and elevation.

### 3.2 WEIGHING AND HAULING OF BITUMINOUS PAVEMENT

- A. Weighing and hauling shall be in compliance with section 400 – Pavements, of the SSRBC

### 3.3 PLACING OF BITUMINOUS PAVEMENT

- A. Description of Work: The surface pavement shall be tack coated and reaped in the following areas and depths:
  - 1. Parking area and travelways. The parking area pavement shall be new pavement, matching the existing in type and grade. The new pavement shall be keyed into the existing pavement where shown on the plans. The Contractor shall confirm all dimensions in the field to his satisfaction.
  - 2. Walkways. The walkways area pavement shall be new pavement, matching the existing in type and grade. The new pavement shall be keyed into the existing pavement where shown on the plans. The Contractor shall confirm all dimensions in the field to his satisfaction.
- B. Pre-paving Conference: Prior to placing any mix, a pre-paving conference shall be held to discuss and approve the paving schedule, source of mix, type and amount of equipment to be used, sequence of paving pattern, rate of mix supply, traffic control and general continuity of the operation. Special attention shall be made to the paving pattern sequence to minimize cold joints. The field supervisors of the above-mentioned operations shall attend this meeting. All equipment used shall be

- approved and on the project site prior to starting up each day.
- C. Weather Limitations: Mixtures shall be placed only when the underlying surface is dry, frost free and the surface temperature is above 50 degrees Fahrenheit for courses less than 1-1/2" thick in compacted depth. The Project Manager may permit, in case of sudden rain, the placing of mixture then in transit from the plant, if laid on a base free from pools of water provided all other specifications are met. No load shall be sent out so late in the day that spreading and compaction can not be completed during the daylight. If rapid surface cooling of the laid down mix is occurring due to wind, the Project Manager may suspend operations for the day.
  - D. Matching Pavement: Where new pavement meets existing pavement, the existing pavement shall be saw cut to provide a neat clean joint. Apply bituminous tack coat to joint.
  - E. New Paving to match existing pavement in type and grade.
  - F. Sweeping: Existing pavement previously laid courses shall be thoroughly dry and free from all dust, dirt and loose material. Sweeping with a power broom, supplemented by hand-brooming, may be necessary.
  - G. Tack Coat: Surfaces of any pavement course that have been exposed for a considerable length of time shall be covered by a tack coat of emulsified asphalt. Rate of application shall be between 0.1-0.3 galls/square yard as determined by the Project Manager in the field.
  - H. Paving small Areas by Hand: Relatively small areas not accessible to the paver may be spread by hand, but extreme care shall be taken to create a surface texture similar to the machine work. Surface material shall be spread by lutes and not by rakes.

#### 3.4 **COMPACTION OF PAVEMENT**

- A. Finish Compaction Requirements: Base Courses shall be rolled until all roller marks are eliminated. The wearing course shall be rolled until all roller marks are eliminated, and a minimum density of 95 percent laboratory specimens, made by the AASHTO T 245, method in the proportions of the job mix formula has been obtained.
- B. Displacement: Any displacement occurring as a result of reversing the direction of a roller, or from other causes, shall be corrected at once by the use of lutes and addition of free mixture when required by the Project Manager. Care shall be exercised in rolling not to displace the line and grade of the edges of the bituminous mixture.
- C. Contractor shall use a mechanical roller to properly compact pavement.

#### 3.5 **PROTECTING PAVEMENT**

- A. Protect all pavement from traffic during all operations, and until it is thoroughly set and cured and is not damaged by normal foot or wheeled traffic.

#### 3.6 **REPLACING OF UNSATISFACTORY PAVEMENT**

- A. Unsatisfactory Pavement: If unsatisfactory areas are found in any pavement course, the Contractor shall remove the unsatisfactory material and replace it with satisfactory material after coating the exposed edges with suitable bituminous material.
- B. Settlement: Should any pavement settle within one year from the date of acceptance of the Work, the Contractor shall repair such pavement at his own expense. If the contractor fails to make such repairs promptly upon receipt of notice to do so from the Project Manager, then the Project Manager may make such repairs as necessary and the Contractor shall be responsible for all costs incurred in making such repairs.

#### 3.7 **PAVEMENT PATCHING**

- A. General: The Contractor shall patch all pavement shown on the plans, described in the Specifications, new pavement that is unsatisfactory and all pavement damaged during construction.
- B. Description: Pavement patching shall consist of neatly saw cutting around pavement to be removed, removing of unsatisfactory or damaged pavement, leveling and compacting subgrade material, coating joints with an approved bituminous tack coat material, placing and compacting one or two courses of pavement to match surrounding pavement. When patching pavement, the material shall be placed on the prepared clean underlying surface at the locations designated and spread to product a smooth uniform patch. The patch material shall be thoroughly compacted and shall match the line and grade of the adjacent pavement.

### 3.8 **SAWED PAVEMENT**

- A. Description: This work shall consist of sawing concrete pavement, bituminous pavement, or both, as shown on the plans or as instructed by the Project Manager. Where new pavement meets old pavement the old pavement shall be saw cut to provide a clean straight surface for the new pavement to match in.
- B. Marking Pavement: Concrete pavement of bituminous pavement to be sawed shall be accurately marked before sawing.
- C. Equipment: The equipment used to saw concrete or bituminous pavement shall be capable of sawing the pavement as shown on the plans or as directed by the Project Manager and shall produce a substantially vertical and sound face without deformation of the adjacent pavement. The use of cutting wheels, pavement breakers, etc., which deform the pavement or leave an unsound face, will not be permitted.
- D. Pavement over Concrete: Where the pavement is found to consist of an overlay of bituminous pavement above a concrete slab, the cut shall be increased enough to score the underlying concrete so that the concrete may be broken in a reasonably uniform manner.

END OF SECTION 321216

# **SECTION 371223 - PAINTED PAVEMENT MARKINGS**

## **PART 1 GENERAL**

- 1.1 **SUMMARY:** Paint parking space lines, Access Isles white 4" in width. Paint Parking Space Numbers 12" in height.
- A. Section Includes:
    - 1. Traffic lines and Markings
    - 2. Legends
    - 3. Paint.
  - B. Related Sections:
    - 1. Section 02500 Pavement.
- 1.2 **REFERENCES**
- A. ASTM INTERNATIONAL
    - 1. .ASTM D34 – Standard Guide for Chemical Analysis of White Pigments.
    - 2. ASTM D1394 – Standard Test Methods for Chemical Analysis of White Titanium Pigments.
- 1.3 **PERFORMANCE REQUIREMENTS**
- A. Paint Adhesion: Adhere to road surface forming smooth continuous film one minute after application.
  - B. Paint Drying: Tack free by touch so as not to require coning or other traffic control devices to prevent transfer by vehicle tires within two minutes after application.
- 1.4 **SUBMITTALS**
- A. Product Data: Submit paint formulation for each type of paint.
  - B. Manufacturers Installation Instructions: Submit instructions for application temperatures, eradication requirements, application rate, line thickness, and any other data on proper installation.
  - C. Manufacturer's Certificate: Certify Products meet or exceed specified requirements.
- 1.5 **QUALITY ASSURANCE**
- A. Perform Work in accordance with State of NH Department of Transportation standards.
- 1.6 **QUALIFICATIONS**
- A. Manufacturer: Company specializing in manufacturing Products specified in this section with minimum three years documented experience.
  - B. Applicator: Company specializing in performing work of this section with minimum three years documented experience.
- 1.7 **DELIVERY, STORAGE, AND HANDLING**
- A. Invert containers several days prior to use when paint has been stored fore than 2 months. Minimize exposure to air when transferring paint. Seal drums and tanks when not in use.
- 1.8 **ENVIRONMENTAL REQUIREMENTS**
- A. Do not apply materials when surface and ambient temperatures are outside

temperature ranges required by paint product manufacturer.

- B. Do not apply exterior coatings during rain or snow when relative humidity is outside humidity ranges, or moisture content of surfaces exceed those required by paint product manufacturer.
- C. Do not apply paint when temperatures are expected to fall below 50 degrees Fahrenheit for 24 hours after application.
- D. Volatile Organic Content (VOC). Do not exceed State or Environmental Protection Agency maximum VOC on traffic paint.

#### 1.9 **WARRANTY**

- A. Furnish three year manufacturer's warranty for traffic paints.

### **PART 2 PRODUCTS**

#### 2.1 **PAINTED PAVEMENT MARKINGS**

- A. Furnish materials in accordance with NHDOT standards.
- B. Paint: Ready mixed, conventional and fast dry waterborne traffic paints, lead-free, non-toxic, NASSHTO Test Deck, minimum retroreflectance of 100 mclds, durability rating of 6 or more after in place for 9 months; within following limits.
  - 1. Pigment, percent by weight: 60 +/- 2
  - 2. Vehicle, percent by weight: 40 +/- 2
  - 3. Non-Volatile, percent by weight of paint: 76.0
  - 4. Weight per gallon, pounds minimum 13.0
  - 5. Viscosity: 8-05 Kreb Units at 77 degrees Fahrenheit
  - 6. Grind (Hegeman Gauge), minimum Field Tested no tracking time under ambient conditions: 20-90 seconds.
  - 7. Dry Through Time, 15 mils wet at 90% relative humidity, 72 degrees Fahrenheit, ASTM D1640: 125 minutes maximum.
  - 8. VOC (Volatile Organic Content): One 1lbs/gal maximum.

#### 2.2 **EQUIPMENT**

- A. For application of parking lines and other items by walk behind strippers, hand spray or stencil trucks, apply with equipment meeting requirements of this section. Do not use hand brushes or rollers.

### **PART 3 EXECUTION**

#### 3.1 **EXAMINATION**

- A. Do not apply paint to bituminous asphalt surfaces until asphalt has cured for 5 days.

#### 3.2 **PREPARATION**

- A. Maintenance and Protection of Traffic:
  - 1. Provide short term traffic control.
  - 2. Prevent interference with marking operations and to prevent traffic on new applied markings before markings dry.
- B. Surface Preparation.
  - 1. Clean and dry paved surface prior to painting.
  - 2. Blow or sweep surface free of dirt, debris, oil, grease or gasoline.

### 3.3 APPLICATION

- A. Agitate paint for 1-15 minutes prior to application to ensure even distribution of paint pigment.
- B. Dispense paint at 110 degrees Fahrenheit to wet-film thickness of 15 mils (0.4mm).
- C. Prevent splattering and over spray when applying markings.
- D. Unless material is track free at end of paint application, use traffic cones to protect markings from traffic until track free. When vehicle crosses a marking and tracks it or when splattering or over spray occurs, eradicate affected marking and resultant tracking and apply new markings.
- E. Collect and legally dispose of residues from painting operations.

### 3.4 FIELD QUALITY CONTROL

- A. Inspect for incorrect location, insufficient thickness, line width, coverage, retention, uncured or discolored material, and insufficient bonding.
- B. Repair lines and markings, which after application and curing do not meet the following criteria:
  - 1. Incorrect Location: Remove and replace incorrectly placed patterns.
  - 2. Insufficient Thickness, Line Width, Paint Coverage or Retention: Repair defective material by acceptably grinding or blast cleaning to remove and roughen marking surface. Remove loose particles and debris. Apply new markings on cleaned surface in accordance with this section.
  - 3. Uncured or Discolored Material, Insufficient Bonding: Remove defective markings in accordance with this Section and clean pavement surface one foot beyond affected area. Apply new markings on cleaned surface in accordance with this Section.
- C. Replace defective pavement markings as specified throughout 3 year warranted period. Replace markings damaged by anti-skid materials, studded tires, tire chains, chemical deicers, snow plowing or other loss of marking material regardless of cause. When markings are damaged by Owner's painting, crack sealing, or pavement repair operations, Contractor is released from warranty requirements for damaged work.
- D. Replace failed or defective markings in entire section of defective markings within 30 days after notification when any of the following exists during warranty period:
  - 1. More than 15 percent of area of continuous line, or more than 15 percent of combined area of parking lines within parking lot is missing.
- E. Replace pavement marking material under warranty using original or better type material. Continue warranty to end of original 3 year period even when replacement materials have been installed as specified.
- F. When eradication of existing paint lines is necessary, eradicate by shot blast or water blast method. Do not gouge or groove pavement more than 1/16 inch during removal. Limit area of removal to area of marking plus 1 inch on all sides.

### 3.5 PROTECTION OF FINISHED WORK

- A. Protected painted pavement markings from vehicular and pedestrian traffic until paint is dry and track free. Follow manufacturer's recommendations. Consider barrier cones as satisfactory protection for material requiring more than 2 minutes dry time.

**END OF SECTION 371223**

## **SECTION 353119 STONE REPLACEMENT**

### **PART I GENERAL**

#### 1.1 REFERENCES

Contract Drawings

#### 1.2 SUBMITTALS

A. Quarry stone source information. Indicate type of stone and include current photographs representative of the intended stone for this project with adequate scale to show the stone sizes.

B. Geotextile data sheet showing specification conformance.

#### 1.3 DELIVERY, STORAGE, AND HANDLING

Handle delivered stone materials carefully to avoid damage to the property, including lawns and pavements. Utilize an aggregate/sand bed to protect pavement during stone unloading.

#### 1.4 QUALITY ASSURANCE

The Contractor is responsible to oversee all stone deliveries and placements to ensure all stone installed meets project specifications.

### **PART 2 PRODUCTS**

#### 2.1 STONE

The material used for revetment shall be rough quarry stone free of cracks, joints, weak seams or other defects. Stone shall be hard, durable, and of such quality that it will not disintegrate on exposure to ice, seawater, wave action or weathering. It shall also be chemically stable, capable of withstanding freezing and thawing, and suitable in all other aspects for the intended use.

##### **ARMOR STONE GRADATION:**

**MAX WT = 25 TONS**

**AVG WT = 10 TONS**

**MIN WT = 8 TONS**

**NEAR SURFACE CHINKING STONE AVG WT = 0.7 TONS**

##### **UNDERLAYER STONE GRADATION:**

**AVG WT = 1 TON**

**MIN WT = 200 LBS**

##### **BEDDING STONE:**

**SHALL HAVE A TYPICAL SIZE OF 6" (APPROX 15 POUNDS) THE SMALLEST STONE SHALL BE 2.5" (1 POUND) AND THE LARGEST STONE SHALL BE 12" (100 POUNDS)**

#### 2.2 GEOTEXTILE FABRIC

Geotextile shall be black non-woven geotextile having a minimum weight of 16 Oz per sq. yd. (ASTM D5621) such as "Propex Geotex 1601" as Manufactured by Propex or approved equal meeting the following GAI-LAP MARV at 97% confidence level.

<b>Fabric Property</b>	<b>Test Method</b>	<b>Units</b>	<b>Acceptable Values</b>
Weight (Typical)	ASTM D 5261	oz/sy	16
Grab Tensile	ASTM D 4632	lbs.	380 (1.690 kN)
Grab Elongation	ASTM D 4632	%	50
Trap-Tear Strength	ASTM D 4533	lbs.	145 (.644 kN)



CBR Puncture	ASTM D 6241	lbs.	1236 (5.50 kN)
Permittivity	ASTM D 4491	sec-1	0.7
Water Flow	ASTM D 4491	gpm/ft <sup>2</sup>	50
UV Resistance	ASTM D 4355	%	70
Apparent Opening Size	ASTM D 4751	US Sieve	#100

### **PART 3 EXECUTION**

- 3.1 **PLACING:** Before commencing stone placement, remove debris, including timbers, concrete and other materials that might cut or damage the geotextile. During construction, the Contractor shall take all necessary precautions to protect the work from displacement by the sea and from all other causes. The Contractor shall replace any stone displaced by the sea or by other causes during the progress of the work without additional cost to the State.
- A. Place geotextile as indicated and over soil subgrades, extending 12 inches minimum beyond joints/opening/edges.
  - B. Seams shall consist of 24 inch overlaps or full strength continuous sewn seams. Provide adequate ballast on generally horizontal geotextile and proper fastening on vertical geotextile to secure it in place the intended locations until stone work is complete. Provide crushed stone bedding over geotextile (minimum necessary) if sharp pointed or sharp edge armor or underlayer stone is being placed with a sharp edge/point towards the geotextile.
  - C. Utilize new stone to supplement existing rip-rap with resetting stones as necessary to form consistent side slopes and protect the Granite Block seawall.
  - D. The rock rip-rap shall be placed by equipment on the surfaces and to the depths and dimensions specified. The rock shall be delivered and placed in such a manner that will insure that the stone work in-place will be dense and compact mass with the largest armor stones uniformly distributed and firmly in contact with the smaller stones and chinking (quarry spalls) filling the voids between the larger rock. Hand placement of chinking (quarry spalls) filling the voids between the larger rock. Hand placement of chinking stone shall be completed to insure a final surface which is tight and solid and with no voids greater than six inches (6") across present between rocks. Rock will be placed starting at the lowest elevation of a toe as shown on the drawings and working back up the slope.
  - E. Each stone shall be carefully set on the stone below. Adjacent stones shall be selected for size and shape and laid in contact and fit as close as possible so as to produce a reasonable minimum of voids. Individual stones shall have at least three points of bearing on stones below. Stones shall be tested for rocking or tipping prior to placement of the next row of stones. Placing small stones in joints from the top to prevent rocking or tipping (chinking) shall not be done.

**END OF SECTION 33119**