

EXPLANATION

At the request of the Department of Administrative Services (DAS) and the Division of Public Works (DPW), the Department of Administrative Services (DAS), through the Bureau of Purchase and Property (BoPP), issued request for bid (RFB) 2955-25 on September 6, 2024, for Concord Tunnel System Repair Abandonment Services at the New Hampshire Tunnel System on Pleasant Street in Concord, NH, with responses due on October 4, 2024. This bid reached two hundred ninety-five (295) vendors through the NIGP registry with an additional nineteen (19) directly sourced. There were three compliant responses received with the lowest being from K.J. Fisher and Sons L.L.C.

Upon approval this contract shall facilitate the required repairs of the tunnel system in Concord, NH. The full scope of this project represents a requested price limitation up to and not to exceed \$478,438.00 to perform tunnel system repair abandonment services as defined by the scope of work under the oversight of the DPW. The price limitation includes an allowance, at the discretion of the agency, of \$125,000.00 for any unforeseen issues. Vendor has submitted all required and certified payment and performance bond paperwork. The payment and performance bond is certified at \$478,438.00 or 100% of the project cost. The total cost, including DPW fees, is \$512,438.00 against an original projected budget estimate of \$620,000.00. This represents a cost savings to the State of \$107,562.00 or 17.35%.

Contract financials	
Vendor project bid amount	\$353,438.00
Vendor project allowance	\$125,000.00
Requested project price limitation	\$478,438.00
DPW fees	\$34,000.00
Grand total (vendor bid and project allowance)	\$512,438.00
Original project estimate	\$620,000.00
Cost savings	\$107,562.00

Based on the foregoing, I am respectfully recommending approval of the contract with K.J. Fisher and Sons L.L.C.

Respectfully submitted,



Charles M. Arlinghaus
Commissioner

AIA Document A312™ – 2010

Performance Bond

CONTRACTOR:
(Name, legal status and address)
K.J. FISHER AND SONS L.L.C.
95 OLD CENTRE ROAD
DEERFIELD, NH 03037

SURETY:
(Name, legal status and principal place of business)

PENNSYLVANIA INSURANCE COMPANY
10805 OLD MILL ROAD
OMAHA, NE 68154

OWNER:
(Name, legal status and address)
STATE OF NEW HAMPSHIRE
DEPARTMENT OF ADMINISTRATIVE
SERVICES
25 CAPITOL STREET
CONCORD, NH 03301

This document has important legal consequences. Consultation with an attorney is encouraged with respect to its completion or modification.

Any singular reference to Contractor, Surety, Owner or other party shall be considered plural where applicable.

AIA Document A312-2010 combines two separate bonds, a Performance Bond and a Payment Bond, into one form. This is not a single combined Performance and Payment Bond.

CONSTRUCTION CONTRACT

Date: 10/28/2024

Amount: \$478,438.00

Bond Number: SSA100000_007

Description: CONCORD TUNNEL SYSTEM REPAIR ABANDONMENT SERVICES, CONCORD, NH, CONTRACT 8003597

(Name and location)

BOND

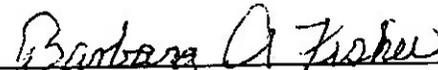
Date: 10/28/2024
(Not earlier than Construction Contract Date)

Amount: \$478,438.00

Modifications to this Bond: X None See Section 16

CONTRACTOR AS PRINCIPAL

Company: K.J. FISHER AND SONS L.L.C. (Corporate Seal)

Signature: 
Name: BARBARA A FISHER
and Title: MANAGING MEMBER
(Any additional signatures appear on the last page of this Performance Bond)

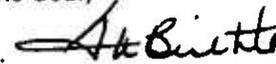
(FOR INFORMATION ONLY— Name, address and telephone)

AGENT or BROKER:

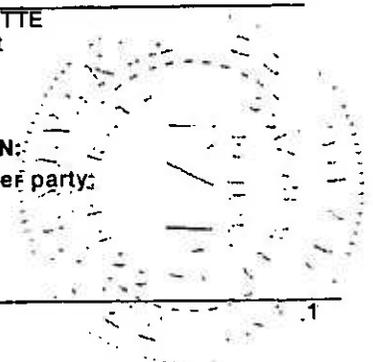
SKILLINGS SHAW & ASSOCIATES
PO BOX 1090, 46 WRIGHT'S LANDING RD.
AUBURN, ME 04211-1090

SURETY

Company: PENNSYLVANIA INSURANCE COMPANY (Corporate Seal)

Signature: 
Name: JOLINE L. BINETTE
And Title: Attorney-in-Fact

OWNER'S REPRESENTATION:
(Architect, Engineer or other party)



§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner for the performance of the Construction Contract, which is Incorporated herein by reference.

§ 2 If the Contractor performs the Construction Contract, the Surety and the Contractor shall have no obligation under this Bond, except when applicable to participate in a conference as provided in Section 3.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation under this Bond shall arise after

- .1 the Owner first provides notice to the Contractor and the Surety that the Owner is considering declaring a Contractor Default. Such notice shall indicate whether the Owner is requesting a conference among the Owner, Contractor and Surety to discuss the Contractor's performance. If the Owner does not request a conference, the Surety may, within five (5) business days after receipt of the Owner's notice, request such a conference. If the Surety timely requests a conference, the Owner shall attend. Unless the Owner agrees otherwise, any conference requested under this Section 3.1 shall be held within ten (10) business days of the Surety's receipt of the Owner's notice. If the Owner, the Contractor and the Surety agree, the Contractor shall be allowed a reasonable time to perform the Construction Contract, but such an agreement shall not waive the Owner's right, if any, subsequently to declare a Contractor Default;
- .2 the Owner declares a Contractor Default, terminates the Construction Contract and notifies the Surety; and
- .3 the Owner has agreed to pay the Balance of the Contract Price in accordance with the terms of the Construction Contract to the Surety or to a contractor selected to perform the Construction Contract.

§ 4 Failure on the part of the Owner to comply with the notice requirement in Section 3.1 shall not constitute a failure to comply with a condition precedent to the Surety's obligations, or release the Surety from its obligations, except to the extent the Surety demonstrates actual prejudice.

§ 5 When the Owner has satisfied the conditions of Section 3, the Surety shall promptly and at the Surety's expense take one of the following actions:

§ 5.1 Arrange for the Contractor, with the consent of the Owner, to perform and complete the Construction Contract;

§ 5.2 Undertake to perform and complete the Construction Contract itself, through its agents or Independent contractors;

§ 5.3 Obtain bids or negotiated proposals from qualified contractors acceptable to the Owner for a contract for performance and completion of the Construction Contract, arrange for a contract to be prepared for execution by the Owner and a contractor selected with the Owner's concurrence, to be secured with performance and payment bonds executed by a qualified surety equivalent to the bonds issued on the Construction Contract, and pay to the Owner the amount of damages as described in Section 7 in excess of the Balance of the Contract Price incurred by the Owner as a result of the Contractor Default; or

§ 5.4 Waive its right to perform and complete, arrange for completion, or obtain a new contractor and with reasonable promptness under the circumstances:

- .1 After investigation, determine the amount for which it may be liable to the Owner and, as soon as practicable after the amount is determined, make payment to the Owner; or
- .2 Deny liability in whole or in part and notify the Owner, citing the reasons for denial.

§ 6 If the Surety does not proceed as provided in Section 5 with reasonable promptness, the Surety shall be deemed to be in default on this Bond seven days after receipt of an additional written notice from the Owner to the Surety demanding that the Surety perform its obligations under this Bond, and the Owner shall be entitled to enforce any remedy available to the Owner. If the Surety proceeds as provided in Section 5.4, and the Owner refuses the payment or the Surety has denied liability, in whole or in part, without further notice the Owner shall be entitled to enforce any remedy available to the Owner.

§ 7 If the Surety elects to act under Section 5.1, 5.2 or 5.3, then the responsibilities of the Surety to the Owner shall not be greater than those of the Contractor under the Construction Contract, and the responsibilities of the Owner to the Surety shall not be greater than those of the Owner under the Construction Contract. Subject to the commitment by the Owner to pay the Balance of the Contract Price, the Surety is obligated, without duplication, for

1. the responsibilities of the Contractor for correction of defective work and completion of the

Construction Contract;

2. additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and

3. liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

§ 8 If the Surety elects to act under Section 5.1, 5.3 or 5.4, the Surety's liability is limited to the amount of this Bond.

§ 9 The Surety shall not be liable to the Owner or others for obligations of the Contractor that are unrelated to the Construction Contract, and the Balance of the Contract Price shall not be reduced or set off on account of any such unrelated obligations. No right of action shall accrue on this Bond to any person or entity other than the Owner or its heirs, executors, administrators, successors and assigns.

§ 10 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 11 Any proceeding, legal or equitable, under this Bond may be instituted in any court of competent jurisdiction in the location in which the work or part of the work is located and shall be instituted within two years after a declaration of Contractor Default or within two years after the Contractor ceased working or within two years after the Surety refuses or fails to perform its obligations under this Bond, whichever occurs first. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 12 Notice to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears.

§ 13 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 14 Definitions

§ 14.1 Balance of the Contract Price. The total amount payable by the Owner to the Contractor under the Construction Contract after all proper adjustments have been made, including allowance to the Contractor of any amounts received or to be received by the Owner in settlement of insurance or other claims for damages to which the Contractor is entitled, reduced by all valid and proper payments made to or on behalf of the Contractor under the Construction Contract.

§ 14.2 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and changes made to the agreement and the Contract Documents.

§ 14.3 Contractor Default. Failure of the Contractor, which has not been remedied or waived, to perform or otherwise to comply with a material term of the Construction Contract.

§ 14.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 14.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 15 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)	
CONTRACTOR AS PRINCIPAL	SURETY
Company: (Corporate Seal)	Company: (Corporate Seal)
Signature:	Signature:
Name and Title:	Name and Title:
Address:	Address:
Caution: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will be not be obscured.	
AIA Document A312™ — 2010. The American Institute of Architects	
4	



AIA Document A312™ – 2010

Payment Bond

CONTRACTOR:
(Name, legal status and address)
K.J. FISHER AND SONS L.L.C.
95 OLD CENTRE ROAD
DEERFIELD, NH 03037

SURETY:
(Name, legal status and principal place of business)

PENNSYLVANIA INSURANCE COMPANY
10805 OLD MILL ROAD
OMAHA, NE 68154

OWNER:
(Name, legal status and address)
STATE OF NEW HAMPSHIRE
DEPARTMENT OF ADMINISTRATIVE
SERVICES
25 CAPITOL STREET
CONCORD, NH 03301

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CONSTRUCTION CONTRACT

Date: 10/28/2024

Amount: \$478,438.00

Bond Number: SSA100000_007

Description: CONCORD TUNNEL SYSTEM REPAIR ABANDONMENT SERVICES, CONCORD, NH, CONTRACT 8003597

(Name and location)

BOND
Date: 10/28/2024
(Not earlier than Construction Contract Date)

Amount: \$478,438.00

Modifications to this Bond: X None See Section 18

CONTRACTOR AS PRINCIPAL

Company: K.J. FISHER AND SONS L.L.C. (Corporate Seal)

Signature: *Barbara A Fisher*
Name: BARBARA A FISHER
and Title: MANAGING MEMBER
(Any additional signatures appear on the last page of this Performance Bond)

(FOR INFORMATION ONLY— Name, address and telephone)

AGENT or BROKER:

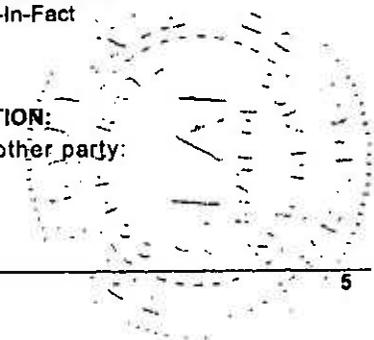
SKILLINGS SHAW & ASSOCIATES
PO BOX 1090, 46 WRIGHT'S LANDING RD.
AUBURN, ME 04211-1090

SURETY

Company: PENNSYLVANIA INSURANCE COMPANY (Corporate Seal)

Signature: *J. Binette*
Name: JOLINE L. BINETTE
and Title: Attorney-in-Fact

OWNER'S REPRESENTATION:
(Architect, Engineer or other party)



§ 1 The Contractor and Surety, jointly and severally, bind themselves, their heirs, executors, administrators, successors and assigns to the Owner to pay for labor, materials and equipment furnished for use in the performance of the Construction Contract, which is incorporated herein by reference, subject to the following terms.

§ 2 If the Contractor promptly makes payment of all sums due to Claimants, and defends, indemnifies and holds harmless the Owner from claims, demands, liens or suits by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract, then the Surety and the Contractor shall have no obligation under this Bond.

§ 3 If there is no Owner Default under the Construction Contract, the Surety's obligation to the Owner under this Bond shall arise after the Owner has promptly notified the Contractor and the Surety (at the address described in Section 13) of claims, demands, liens or suits against the Owner or the Owner's property by any person or entity seeking payment for labor, materials or equipment furnished for use in the performance of the Construction Contract and tendered defense of such claims, demands, liens or suits to the Contractor and the Surety.

§ 4 When the Owner has satisfied the conditions in Section 3, the Surety shall promptly and at the Surety's expense defend, indemnify and hold harmless the Owner against a duly tendered claim, demand, lien or suit.

§ 5 The Surety's obligations to a Claimant under this Bond shall arise after the following:

- § 5.1 Claimants, who do not have a direct contract with the Contractor,
- 1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
 - 2 have sent a Claim to the Surety (at the address described in Section 13).

§ 5.2 Claimants, who are employed by or have a direct contract with the Contractor, have sent a Claim to the Surety (at the address described in Section 13).

§ 6 If a notice of non-payment required by Section 5.1.1 is given by the Owner to the Contractor, that is sufficient to satisfy a Claimant's obligation to furnish a written notice of non-payment under Section 5.1.1.

7 When a Claimant has satisfied the conditions of Sections 5.1 or 5.2, whichever is applicable, the Surety shall promptly and at the Surety's expense take the following actions:

§ 7.1 Send an answer to the Claimant, with a copy to the Owner, within sixty (60) days after receipt of the Claim, stating the amounts that are undisputed and the basis for challenging any amounts that are disputed; and

§ 7.2 Pay or arrange for payment of any undisputed amounts.

§ 7.3 The Surety's failure to discharge its obligations under Section 7.1 or Section 7.2 shall not be deemed to constitute a waiver of defenses the Surety or Contractor may have or acquire as to a Claim, except as to undisputed amounts for which the Surety and Claimant have reached agreement. If, however, the Surety fails to discharge its obligations under Section 7.1 or Section 7.2, the Surety shall indemnify the Claimant for the reasonable attorney's fees the Claimant incurs thereafter to recover any sums found to be due and owing to the Claimant.

§ 8 The Surety's total obligation shall not exceed the amount of this Bond, plus the amount of reasonable attorney's fees provided under Section 7.3, and the amount of this Bond shall be credited for any payments made in good faith by the Surety.

§ 9 Amounts owed by the Owner to the Contractor under the Construction Contract shall be used for the performance of the Construction Contract and to satisfy claims, if any, under any construction performance bond. By the Contractor furnishing and the Owner accepting this Bond, they agree that all funds earned by the Contractor in the performance of the Construction Contract are dedicated to satisfy obligations of the Contractor and Surety under this Bond, subject to the Owner's priority to use the funds for the completion of the work.

§ 10 The Surety shall not be liable to the Owner, Claimants or others for obligations of the Contractor that are unrelated to the Construction Contract. The Owner shall not be liable for the payment of any costs or expenses of any Claimant under this Bond, and shall have under this Bond no obligation to make payments to, or give notice on behalf of, Claimants or otherwise have any obligations to Claimants under this Bond.

§ 11 The Surety hereby waives notice of any change, including changes of time, to the Construction Contract or to related subcontracts, purchase orders and other obligations.

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim, to the Surety pursuant to

Section 5.1, 2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

§ 13 Notice and Claims to the Surety, the Owner or the Contractor shall be mailed or delivered to the address shown on the page on which their signature appears. Actual receipt of notice or Claims, however accomplished, shall be sufficient compliance as of the date received.

§ 14 When this Bond has been furnished to comply with a statutory or other legal requirement in the location where the construction was to be performed, any provision in this Bond conflicting with said statutory or legal requirement shall be deemed deleted herefrom and provisions conforming to such statutory or other legal requirement shall be deemed incorporated herein. When so furnished, the intent is that this Bond shall be construed as a statutory bond and not as a common law bond.

§ 15 Upon request by any person or entity appearing to be a potential beneficiary of this Bond, the Contractor and Owner shall promptly furnish a copy of this Bond or shall permit a copy to be made.

§ 16 Definitions

§ 16.1 Claim. A written statement by the Claimant including at a minimum:

- 1 the name of the Claimant;
- 2 the name of the person for whom the labor was done, or materials or equipment furnished;
- 3 a copy of the agreement or purchase order pursuant to which labor, materials or equipment was furnished for use in the performance of the Construction Contract;
- 4 a brief description of the labor, materials or equipment furnished;
- 5 the date on which the Claimant last performed labor or last furnished materials or equipment for use in the performance of the Construction Contract;
- 6 the total amount earned by the Claimant for labor, materials or equipment furnished as of the date of the Claim;
- 7 the total amount of previous payments received by the Claimant; and
- 8 the total amount due and unpaid to the Claimant for labor, materials or equipment furnished as of the date of the Claim.

§ 16.2 Claimant. An individual or entity having a direct contract with the Contractor or with a subcontractor of the Contractor to furnish labor, materials or equipment for use in the performance of the Construction Contract. The term Claimant also includes any individual or entity that has rightfully asserted a claim under an applicable mechanic's lien or similar statute against the real property upon which the Project is located. The intent of this Bond shall be to include without limitation in the terms "labor, materials or equipment" that part of water, gas, power, light, heat, oil, gasoline, telephone service or rental equipment used in the Construction Contract, architectural and engineering services required for performance of the work of the Contractor and the Contractor's subcontractors, and all other items for which a mechanic's lien may be asserted in the jurisdiction where the labor, materials or equipment were furnished.

§ 16.3 Construction Contract. The agreement between the Owner and Contractor identified on the cover page, including all Contract Documents and all changes made to the agreement and the Contract Documents.

§ 16.4 Owner Default. Failure of the Owner, which has not been remedied or waived, to pay the Contractor as required under the Construction Contract or to perform and complete or comply with the other material terms of the Construction Contract.

§ 16.5 Contract Documents. All the documents that comprise the agreement between the Owner and Contractor.

§ 17 If this Bond is issued for an agreement between a Contractor and subcontractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

§ 18 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)	
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Company: (Corporate Seal)	Company: (Corporate Seal)
Signature:	Signature:
Name and Title:	Name and Title:
Address:	Address:
Caution: You should sign an original AIA Contract Document, on which this text appears in RED. An original assures that changes will be not be obscured.	
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8	

California Insurance Company · Continental Indemnity Company · Illinois Insurance Company · Pennsylvania Insurance Company

10805 Old Mill Road · Omaha, Nebraska 68154

POWER OF ATTORNEY NO. SSAMAI01_0323

KNOW ALL MEN BY THESE PRESENTS: That the California Insurance Company, duly organized and existing under the laws of the State of California and having its principal office in the County of San Mateo, California, and Continental Indemnity Company, Illinois Insurance Company and Pennsylvania Insurance Company, corporations duly organized and existing under the laws of the State of New Mexico and having their principal office in the County of Santa Fe, New Mexico does hereby nominate, constitute and appoint:

Heidi Rodzen, Joline L. Binette, Melanie A. Bonnevie, Robert Shav, Samuel M. Goulet

Its true and lawful agent and attorney-in-fact, to make, execute, seal and deliver for and on its behalf as surety, and its act and deed any and all bonds, contracts, agreements of indemnity and other undertakings in suretyship (NOT INCLUDING bonds without a fixed penalty or financial guarantee) provided, however, that the penal sum of any one such instrument executed hereunder shall not exceed the sum of:

"Unlimited"

This Power of Attorney is granted and is signed and sealed under and by the authority of the following Resolution adopted by the Board of Directors of California Insurance Company, Continental Indemnity Company, Illinois Insurance Company and Pennsylvania Insurance Company.

"RESOLVED, That the President, Senior Vice President, Vice President, Assisted Vice President, Secretary, Treasurer and each of them hereby is authorized to execute powers of attorney, and such authority can be executed by use of facsimile signature, which may be attested or acknowledged by any officer or attorney of the Company, qualifying the attorney or attorneys named in given power of attorney, to execute in behalf of, and acknowledge as the act and deed of the California Insurance Company, Continental Indemnity Company, Illinois Insurance Company and Pennsylvania Insurance Company, all bond undertakings and contracts of suretyship, and to affix the corporate seal thereto."

IN WITNESS WHEREOF, California Insurance Company, Continental Indemnity Company, Illinois Insurance Company and Pennsylvania Insurance Company, has caused its official seal to be hereunto affixed and these presents to be signed by its duly authorized officer the 16th day of August 2023.

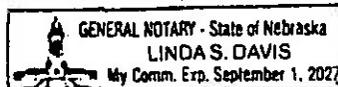
California Insurance Company, Continental Indemnity Company, Illinois Insurance Company, Pennsylvania Insurance Company

By Jeffrey A. Silver Jeffrey A. Silver, Secretary

STATE OF NEBRASKA
COUNTY OF DOUGLAS SS:

On this 16th day of August A.D. 2023, before me a Notary Public of the State of Nebraska, in and for the County of Douglas, duly commissioned and qualified, came THE ABOVE OFFICER OF THE COMPANY, to me personally known to be the individual and officer described in, and who executed the preceding instrument, and he acknowledged the execution of the same, and being by me duly sworn, deposed and said that he is the officer of the said Company aforesaid, and that the seal affixed to the preceding instrument is the Corporate Seal of said Company, and the said Corporate seal and his signature as officer were duly affixed and subscribed to the said instrument by the authority and direction of the said corporation, and that Resolution adopted by the Board of Directors of said Company, referred to in the preceding instrument is now in force.

IN TESTIMONY WHEREOF, I have hereunto set my hand, and affixed my Official Seal at the County of Douglas, the day and year first above written.



Linda S. Davis
(Notary Public)

I, the undersigned Officer of the California Insurance Company, a California Corporation of Foster City, California, Continental Indemnity Company, Illinois Insurance Company and Pennsylvania Insurance Company, New Mexico Corporations of Santa Fe, New Mexico, do hereby certify that the original POWER OF ATTORNEY of which the foregoing is full, true and correct copy is still in full force and effect and has not been revoked.

IN WITNESS WHEREOF, I have hereunto set my hand, and affixed the Seal of said Company, on the 28th day of October, 2024

Jeffrey A. Silver
Jeffrey A. Silver, Secretary



Division of Procurement Support Services
Bureau of Purchase Property

Gary S. Lunetta
Director
(603) 271-2201

Bid Summary

Bid Description	Concord Tunnel System Repair Abandonment		DAS
Bid #	2955-25		N/A
Agent Name	James Poulin		10/4/2024

Indicates Award:

Qty	UOM	Product Description	KJ Fisher and Sons, LLC	William P Davis Excavation, LLC	Charlestown Property Maintenance, LLC	Redimix Companies
			Total Bid	Total Bid	Total Bid	Total Bid
1	EA	Total Project Bid Amount for Concord Tunnel System	\$353,438.00	\$678,500.00	Withdrawn from bid on 10/8/2024	Non-Compliant
1	EA	Project Allowance	\$125,000.00	\$125,000.00		
1	EA	DPW Fees	\$34,000.00	\$34,000.00		
Total			\$512,438.00	\$837,500.00		

Recommendation Summary				
Number of Solicitations Received	4			
Number of Sourced bidders	19			
Number of NIGP Vendors Sourced	280			
Number of non-responsive bidders	295			
D&B Report Attached	Yes			
Method of Payment (P-card/ACH)	ACH			
Original Project Estimation	\$620,000.00	Savings	107,562.00	-17.35%
Special Notes: Charlestown Property Maintenance, LLC withdrew from the bid on 10/8/24 because they under bid themselves. They were the 3rd lowest bidder with their original response.				

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 Administrative Services Bureau of Purchase and Property		1.2 State Agency Address 25 Capitol Street Concord, NH 03301	
1.3 Contractor Name K.J. Fisher and Sons L.L.C.		1.4 Contractor Address 95 Old Center Rd Deerfield, NH 03037	
1.5 Contractor Phone Number 603-247-4903	1.6 Account Unit and Class Various	1.7 Completion Date June 13, 2025	1.8 Price Limitation \$478,438.00
1.9 Contracting Officer for State Agency Gary Lunetta, Director		1.10 State Agency Telephone Number 603-271-3606	
1.11 Contractor Signature <i>Barbara A Fisher</i> Date: <i>10/28/24</i>		1.12 Name and Title of Contractor Signatory <i>Barbara A. Fisher</i> <i>Managing Member</i>	
1.13 State Agency Signature <i>Charles M. Arlinghaus</i> Date: <i>11/20/24</i>		1.14 Name and Title of State Agency Signatory Charles M. Arlinghaus, Commissioner	
1.15 Approval by the N.H. Department of Administration, Division of Personnel (if applicable) By: _____ Director, On: _____			
1.16 Approval by the Attorney General (Form, Substance and Execution) (if applicable) By: <i>Duncan A. Edgar</i> On: December 2, 2024			
1.17 Approval by the Governor and Executive Council (if applicable) 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.

EXHIBIT A - SPECIAL PROVISIONS

There are no special provisions of this contract.

Contractor Initials *BJ*

Date 10.28.24

EXHIBIT B - SCOPE OF SERVICES

1. INTRODUCTION:

1.1. K.J. Fisher and Sons L.L.C. (hereinafter referred to as the "Contractor") hereby agrees to provide the State of New Hampshire (hereinafter referred to as the "State"), Department of Administrative Services, with Concord Tunnel System Repair Abandonment Services in accordance with the bid submission in response to State Request for Bid #2955-25 and as described herein.

2. CONTRACT DOCUMENTS:

2.1. This Contract consists of the following documents ("Contract Documents"):

- State of New Hampshire Terms and Conditions, General Provisions Form P-37
- EXHIBIT A Special Provisions
- EXHIBIT B Scope of Services
- EXHIBIT C Method of Payment
- APPENDIX A Project Execution Requirements
- APPENDIX B Project Drawings

2.2. In the event of any conflict among the terms or provisions of the documents listed above, the following order of priority shall indicate which documents control: (1), Form Number P-37 as modified by EXHIBIT A "Special Provisions," (2) EXHIBIT B "Scope of Services," (3) EXHIBIT C "Method of Payment," (4) Appendix A "Project Execution Requirements," and (5) Appendix B "Project Drawings."

3. TERM OF CONTRACT:

3.1. The term of the contract shall commence upon approval of the Governor and Executive Council, through June 13, 2025, a period of approximately seven (7) months.

4. SCOPE OF WORK:

4.1. General

- 4.1.1. Contractor shall remove concrete top and fill approximately 400 linear feet of existing tunnel and install approximately 24,000 square feet of pavement
- 4.1.2. Includes Conditions of the Contract.
- 4.1.3. Examine all other sections of the specifications for requirements, which affect the work of this Section, whether or no such requirements are particularly mentioned herein.
- 4.1.4. Coordinate the work of this section with the related work of other trades, if applicable, and coordinate with such trades to assure the steady progress of all work of this Contract.
- 4.1.5. Where construction and trades codes appear in this specification, it shall be interpreted to mean the latest edition.

4.2. Summary

- 4.2.1. The work covered by this Section consists of furnishing all labor, materials, equipment, supplies, devices, gauges/meters, etc., the installation of the materials and equipment and the performance of all operations necessary to perform Concord tunnel system repair services at the Concord tunnel system on Pleasant Street in Concord, NH, as indicated on the Contract Drawings and/or as described within the Contract Specifications.
- 4.2.2. This work shall include all costs involved in repair the tunnel system as indicated and any costs involved with any other special controls for the project. Without limiting the work required under this specification section, the following is included as noted:
- 4.2.3. Provide all materials to complete tunnel system repair services.
- 4.2.4. Any and all work required to leave the facility as a fully operable project per the Contract.
- 4.2.5. Obtain and pay for all required permits, inspections, etc.
- 4.2.6. Provide any testing and commissioning for the project.

4.3. Appendices

4.3.1. Specific project requirements are incorporated into Appendices A, and B as part of Exhibit B.

4.3.1.1. Appendix A incorporates the following project requirements into this document:

- 4.3.1.1.1. Special Requirements
- 4.3.1.1.2. General Conditions
- 4.3.1.1.3. Supplementary Conditions
- 4.3.1.1.4. Summary
- 4.3.1.1.5. Price and Payment Procedures
- 4.3.1.1.6. Administrative Requirements
- 4.3.1.1.7. Submittal Procedures
- 4.3.1.1.8. Quality Requirements
- 4.3.1.1.9. Temporary Facilities and Controls
- 4.3.1.1.10. Construction Waste Management and Disposal
- 4.3.1.1.11. Product Requirements
- 4.3.1.1.12. Execution Requirements
- 4.3.1.1.13. Site Construction Performance Requirements
- 4.3.1.1.14. Cast-In-Place Concrete
- 4.3.1.1.15. Earthwork
- 4.3.1.1.16. Site Clearing
- 4.3.1.1.17. Erosion and Sedimentation Controls
- 4.3.1.1.18. Base Courses
- 4.3.1.1.19. Asphalt Paving
- 4.3.1.1.20. Pavement Markings
- 4.3.1.1.21. Planting
- 4.3.1.1.22. Seeding and Sodding

4.3.1.2. Appendix B incorporates all project drawings into this document.

4.3.2. The Contractor shall abide by all project requirements set forth in all Appendices.

4.3.3. All subcontractors shall abide by all project requirements set forth in all Appendices.

5. COMMERCIAL REQUIREMENTS:

- 5.1. The State of New Hampshire reserves the right to add or delete locations/equipment throughout the term of the contract. For the addition of a new location or new equipment, a requesting agency through the Division of Procurement and Support Services shall submit a request for quote (RFQ) including a detailed scope of work to the contractor. Quotes shall be in accordance with pricing and service requirements contained herein and no service shall be performed until documented acceptance by the State is received. The Contract may be amended, by agreement of the parties, effective upon approval of the commissioner of the Department of Administrative Services, without further approval needed by the Governor and Executive Council as long as the price limitation is unchanged or decreased as a result of the new or deleted locations/equipment.
- 5.2. Except as otherwise provided in this Scope of Services, all services performed under this Contract shall be performed between the hours of 7:00 A.M. and 3:00 P.M. unless other arrangements are made in advance with the State. Any deviation in work hours shall be pre-approved by the Contracting Officer. The State requires ten-day advance knowledge of said work schedules to provide security and access to respective work areas.
- 5.3. The Contractor shall not commence work until a conference is held with each State agency intending to utilize the Contractor's services, at which representatives of the Contractor and the State are present. The conference will be arranged by the State agency.
- 5.4. The State shall require correction of any defective work and the repair of any damages to any part of a building or its appurtenances caused by the Contractor or its employees, subcontractors, equipment or supplies. The

Contractor shall correct, repair, or replace all defective work, as needed, to complete said work in satisfactory condition, and damages so caused in order to restore the building and its appurtenances to their previous condition. Upon failure of the Contractor to proceed promptly with the necessary corrections or repairs, the State may withhold any amount necessary to correct all defective work or repair all damages from payments to the Contractor.

- 5.5. The work staff shall consist of qualified persons completely familiar with the products and equipment that they will use. The Contracting Officer may require the Contractor to dismiss from the work such employees as the Contracting Officer deems incompetent, careless, insubordinate, or otherwise objectionable, or whose continued employment on the work is deemed to be contrary to the public interest or inconsistent with the best interest of security and the State.
 - 5.6. Neither the Contractor nor its employees or subcontractors shall represent themselves as employees or agents of the State.
 - 5.7. While on State property the Contractor, its employees, and its sub-contractors shall be subject to the authority and control of the State, but under no circumstances shall such persons be deemed to be employees of the State.
 - 5.8. All personnel shall observe all regulations or special restrictions in effect at any State agency location at which services are to be provided.
 - 5.9. The Contractor's personnel shall be allowed only in areas where services are to be provided. The use of State telephones by the Contractor, its employees, or its sub-contractors is prohibited.
 - 5.10. If sub-contractors are to be utilized, Contractor shall provide information regarding the proposed sub-contractors including the name of the company, their address, contact person and three references for clients they are currently servicing. Approval by the State must be received prior to a sub-contractor starting any work.
- 6. OBLIGATIONS AND LIABILITY OF THE CONTRACTOR:**
- 6.1. The Contractor shall provide all repair services strictly pursuant to, and in conformity with, the specifications described in State RFB 2955-25, as described herein, and under the terms of this Contract.
 - 6.2. It is the responsibility of the Contractor to maintain this contract and New Hampshire Vendor Registration with up-to-date contact information.
 - 6.3. Contract specific contact information (Sales contact, Contractor contract manager, etc.) shall be sent to the State's Contracting Office listed in Box 1.9 of Form P-37.
 - 6.4. Additionally, all updates i.e., telephone numbers, contact names, email addresses, W9, tax identification numbers are required to be current through a formal electronic submission to the Bureau of Purchase and Property at: [https://das.nh.gov/purchasing/vendorregistration/\(S\(q0fzcv55qhaeqs45jpyq5i45\)\)/welcome.aspx](https://das.nh.gov/purchasing/vendorregistration/(S(q0fzcv55qhaeqs45jpyq5i45))/welcome.aspx).
 - 6.5. The Contractor shall agree to hold the State of NH harmless from liability arising out of injuries or damage caused while performing this work. The Contractor shall agree that any damage to building(s), materials, equipment, or other property during the performance of the service shall be repaired at its own expense, to the State's satisfaction.
 - 6.6. Contractor shall not be allowed to require any other type of order, nor shall the Contractor be allowed to require the filling out or signing of any other document by State of New Hampshire personnel.
- 7. DEBARMENT, SUSPENSION, INELIGIBILITY AND VOLUNTARY EXCLUSION LOWER TIER COVERED TRANSACTIONS:**
- 7.1. The Contractor certifies, by signature of this contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal Department or Agency.
- 8. CONFIDENTIALITY & CRIMINAL RECORD:**
- 8.1. If requested by the using agency, the Contractor and its employees, and Sub-Contractors (if any), shall be required to sign and submit a Confidential Nature of Department Records Form and a Criminal Authorization Records Form. These forms shall be submitted to the individual using agency prior to the start of any work.

EXHIBIT C - METHOD OF PAYMENT

9. CONTRACT PRICE:

9.1. The Contractor hereby agrees to provide tunnel repair services in strict compliance with the terms and conditions specified in Exhibit B for an amount up to and not to exceed a price of \$478,438.00; this figure shall not be considered a guaranteed or minimum figure; however, it shall be considered a maximum figure from the effective date through the expiration date as indicated in Form P-37 Block 1.7.

10. PRICING STRUCTURE (milestones):

- 10.1. Payments shall be made on a monthly basis based on the percentage of work completed. Payment shall not be due until 30 days after the invoice has been received at the agency business office or all items have been delivered, inspected, and accepted by the agency, whichever is later.
- 10.2. Payment method (P-Card or ACH). Payments shall be made via ACH or Procurement Card (P-card = Credit Card) unless otherwise specified by the State of New Hampshire. Use the following link to enroll with the State Treasury for ACH payments: <https://www.nh.gov/treasury/state-vendors/index.htm>

CONTRACT 8003597 Concord Tunnel System Repair Abandonment Services	
VENDOR FIRM FIXED LUMP SUM	\$353,438.00
PROJECT ALLOWANCE	\$125,000.00
TOTAL PROJECT AMOUNT	\$478,438.00

11. CONTRACT BOND:

- 11.1. The Contractor, at the time of the execution of this Contract shall submit a Payment and Performance Bond in the sum equal to one hundred percent (100%) of the amount of the Contract as required by RSA 447:16. The Payment and Performance Bond must be written by a company licensed to do business in New Hampshire at the time the policy is issued. In addition, the company issuing the payment and performance bond shall be listed on the current list of "Surety Companies Acceptable on Federal Bonds" as published by the U.S. Department of the Treasury, Financial Management Services, Circular Number 570. See Surety Bonds – Circular 570 (treasury.gov).
- 11.2. Release of Claims and Final Payment:
 - 11.2.1. The final payment shall not become due until the Contractor delivers a complete release of all claims arising under and by virtue of this Contract, including claims for all subcontractors and suppliers of either materials or labor, plus a release of the Contract Bond and a statement that all subcontractors and suppliers have been paid.
 - 11.2.2. Application for Final Payment received from the Contractor will be processed for payment after project acceptance and final completion unless accompanied by a release of the Contract Bond. This payment shall be the amount of the Contract, less previous payments. All prior partial payments shall be subject to correction in the final estimate and payment.
- 11.3. The acceptance of Final Payment by the Contractor shall be and shall operate as a release to the Contractor of all claims and of all liability to the State for all things done or furnished in connection with this work. No payment, however, final or otherwise, shall operate to release the Contractor and its Sureties from any obligations under this Contract of the Contract Bond. Acceptance of Final Payment shall not impact any warranties provided by the Contractor with respect to this project.

12. INVOICE:

- 12.1. Invoices shall be submitted on a monthly basis to the State Project Manager based on the percentage of work completed. The Contractor shall submit invoices on AIA forms subject to review and approval by the State Project Manager. The percentage of work completed shall be determined by the State Project Manager.
- 12.2. Payment requisition forms, change order forms, and invoicing questions can be sent to J. Wyatt Porter-Brown at james.a.porter-brown@das.nh.gov.

Contractor Initials BJ

Date 10-28-24

13. PAYMENT:

13.1. Payments shall be made on a monthly basis based on the percentage of work completed. Payments shall be made within thirty (30) days after receipt of the invoice and acceptance of the corresponding goods and/or services to the State's satisfaction.

13.2. Payments may be made via ACH or P-Card. Use the following link to enroll with the State Treasury for ACH payments: <https://www.nh.gov/treasury>.

13.3. Contractor shall be paid within 30 days after receipt of properly documented invoice and acceptance of the work to the State's satisfaction.

SECTION 00250

SPECIAL REQUIREMENTS – NHDAS-DPW

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. COVID-19 Response
- B. Security.
- C. Procedures and Guidelines.

1.2 COVID-19 RESPONSE

- A. The Contractor shall comply with all applicable NH Governor Emergency Orders related to the COVID-19 pandemic. The Contractor is encouraged to adhere to all current State and Federal guidelines related to the prevention of the spread of coronavirus.

1.3 SECURITY

- A. Security Check:
 - 1. After Award of Bid and prior to the start of construction the Contractor shall submit a list of all contractors' employees, all subcontractors' employees, and other related personnel who will be physically required to work inside any building. Provide the following information for person:
 - a. Name.
 - b. Date of Birth.
 - c. Social Security Number.
 - d. Employer's Company Name
 - 2. Anyone with a criminal history, other than traffic violations that have not been annulled will not be allowed to work inside any building. No exceptions will be allowed.
- B. Security Program:
 - 1. Initiate program in coordination with Owner's existing security system at project mobilization.
 - 2. Maintain program throughout construction period until directed by NHDAS Division of Public Works Project Manager.
- C. Entry Control:
 - 1. Restrict entrance of persons and vehicles into Project existing facilities and premises.
 - 2. Allow entrance to the site only to authorized persons with proper identification.
 - 3. Maintain log of workers and visitors, make available to Owner on request.
 - 4. Coordinate access of Owner's personnel to site in coordination with Owner.
- D. Personnel Identification:

1. A drivers license or other acceptable positive identification will be required..
2. Contractor shall maintain list of accredited persons; submit copy to Owner on request.
3. Do not allow cameras on site or photographs taken except by written approval of Owner.

1.4 PROCEDURES AND GUIDELINES

- A. In addition to the requirements of this contract, the work shall conform with the following:
 1. Department of Corrections Manual.
 2. Department of Health & Human Services Manual.
 3. New Hampshire Technical Institute Manual.
- B. The above-mentioned documents are attached to back of this specification section.

END OF SECTION

DOCUMENT 00708

GENERAL CONDITIONS – DPW
Issued 2-05-2004; Revised as noted

PART	ITEM
1	DEFINITIONS
2	CONTRACT DOCUMENTS
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PART I DEFINITIONS

- A. **Addendum.** Written and/or graphic information issued before opening *Proposals* that modifies or interprets the *Bidding Documents* by additions, deletions, clarifications or corrections.
- B. **Advertisement.** A public announcement in the form of an *Invitation to Bid*, inviting *Bids* for *Work* to be performed and/or *Materials* to be furnished.
- C. **Alteration Order.** A written agreement between the *Contractor* and the *Department* that amends the *Contract* and identifies *Work* that affects either the *Contract Sum*, *Completion Date*, *Credit*, or any combination thereof.
- D. **Alternate.** A proposed change in the *Work* described in the *Contract Documents* providing the *State* with an option to select between alternative materials, products or systems, or to add or delete portions of *Work*.
- E. **Architect.** As defined in RSA 310-A:28, a person who, by reason of having acquired through professional education and practical experience an advanced training in building construction and architectural design and an extensive knowledge of building standards created to safeguard the public from hazards such as fire, panic, structural failure, and unsanitary conditions, is technically and legally qualified to practice architecture and who is licensed by the State of New Hampshire Board of Licensure for Architects to engage in the practice of architecture. The Architect has no contractual agreement with the *Contractor* and therefore shall not directly interact with the *Contractor*.
- F. **Award.** The acceptance of a *Bid* prior to execution of *Contract*.
- G. **Bid.** A complete and properly signed *Proposal*, submitted in accordance with the *Bidding Requirements*, to perform the *Work* for the amount or amounts stipulated therein.
- H. **Bid Bond.** A form of a *Proposal Guaranty* executed by the *Bidder* and a *Surety* to guarantee that the *Bidder* will enter into a *Contract* within a specified time.
- I. **Bid Opening Officer.** An authorized representative of the *Department*, who is responsible for opening and reading of *Bids*.
- J. **Bidder.** A *Corporation*, *Partnership*, or *Proprietorship* submitting a *Proposal*, subsequent to meeting the *Department's Bidding Requirements*.
- K. **Bidding Documents.** Collectively, the *Invitation to Bid*, *Bidding Requirements*, *Specifications*, *Drawings*, and *Addendum*.
- L. **Bidding Requirements.** The documents that contain information regarding bidding procedures with which a *Bidder* must conform and a *Proposal* that a *Bidder* shall use to submit a *Bid*.
- M. **Builders Risk Insurance.** A specialized form of property insurance that provides coverage for loss or damage during the course of construction.

- N. **Calendar Day.** A day shown on the calendar.
- O. **Certificate of Occupancy.** A document issued by the Office of the State Fire Marshal or its authorized representative certifying that all of, or a designated portion of a building, is approved for its designated use.
- P. **Certificate of Full or Partial Substantial Completion.** A document prepared by the *Department* when the *Project* reaches *Substantial Completion* and only issued after review and acceptance of the *Contractor's Request for Certificate of Full or Partial Substantial Completion*.
- Q. **Change Order.** A written agreement between the *Contractor* and the *Department* that identifies *Work* to be completed as part of an Allowance Item. Any change that affects either the *Contract Sum*, *Contract Time* or *Credit* shall be processed as an *Alteration Order*.
- R. **Clerk of the Works.** An authorized representative identified by the *Department*, responsible for observing construction on the State's behalf for conformance with the *Contract Documents*.
- S. **Commercial General Liability Insurance.** A broad form of liability insurance covering claims for bodily injury and property damage which combines under one policy coverage for business liability exposures, except those specifically excluded.
- T. **Commissioner.** The Commissioner of the State of New Hampshire Department of Administrative Services.
- U. **Completion Date.** The last day of the time allotted or the specific date established as identified in the *Contract Documents* for *Substantial Completion* of the *Work*, including any authorized extensions.
- V. **Consultant.** The *Architect*, *Engineer*, and/or professional engaged to develop/provide *Drawings*, *Specifications* and/or other services for the *Project*. The Consultant has no contractual agreement with the *Contractor* and therefore all interaction between any Consultant and the *Contractor* shall be done thru the *Contract Administrator*.
- W. **Contract.** The written agreement between the *Department* and the *Contractor* setting forth the obligations of the parties as outlined in the *Contract Documents*.
- X. **Contract Administrator.** The *Department's* Division of Public Works Project Manager or other appointed representative having specific authority per RSA 228:5 to act on the *Department's* behalf and shall be responsible for general supervision, control, and direction over all matters pertaining to design, construction, maintenance standards, preservation, and administration of the *Contract*.
- Y. **Contract Bond.** The approved form of security in compliance with RSA 447:16 executed by the *Contractor* and their *Surety* or *Sureties*, guaranteeing complete execution of the contract and all supplemental agreements pertaining thereto including the payment of all legal debts pertaining to the construction of the *Project*.

- Z. **Contract Documents.** Collectively, the *Invitation To Bid, Bidding Requirements, Contract Bond, Specifications, Drawings, Addendum*, and other documents included in the *Contract*, and modifications, clarifications, authorized *Alteration Orders* and *Change Orders* issued after the execution of the *Contract*, to complete the *Project*. All documents shall be written in English.
- AA. **Contract Sum.** The amount stated in the *Contract*. This sum shall be derived from the *Lump Sum Base Bid, Lump Sum Grand Total, or Negotiated Price*; modified to reflect the acceptance of any *Alternates*. The *Notice to Proceed* shall state the amount that the *State* is obligated to pay the *Contractor*.
- BB. **Contractor.** The *Corporation, Partnership, or Proprietorship*, or any combination thereof, contracting with the *State* for performance of prescribed work.
- CC. **Contractor's Request for Certificate of Full or Partial Substantial Completion.** A document prepared by the *Contractor* when the *Project* reaches *Substantial Completion*.
- DD. **Contractual Liability.** Liability assumed by the *Contractor* under a *Contract*.
- EE. **Corporation.** A legal entity organized under the laws of a particular jurisdiction who is legally authorized to do business in the *State*.
- FF. **Credit.** Any Change that results in a reduction in the *Contract Sum* or *Lump Sum Grand Total* Items. All credits shall be processed by an *Alteration Order* and may include modifications to *Lump Sum Grand Total* Items.
- GG. **Day.** Unless designated as a *Working Day*, or unless otherwise indicated, this term will mean a *Calendar Day*.
- HH. **Department.** The *State of New Hampshire Department of Administrative Services*.
- II. **Drawings (Plans).** The graphic and pictorial documents or reproductions thereof, which show the location, character, dimensions, and details of the prescribed work.
- JJ. **Final Completion.** Term denoting that the *Work* has been completed in accordance with the terms and conditions of the *Contract Documents* and all *Punch List* items have been completed.
- KK. **Final Payment.** Payment made by the *State* to the *Contractor*, upon *Final Completion*.
- LL. **General Conditions.** The part of the *Contract Documents* establishing the rights, responsibilities and relationships of the parties.
- MM. **Hazardous Material.** Shall include any material regulated by federal or state law and shall include but not limited to asbestos, toxic or hazardous waste, PCBs, combustible gases and materials, petroleum or radioactive material, or any other substances under any conditions and in such quantities as would pose a substantial danger to persons or property exposed to such substances.

- NN. **Indemnification.** A contractual obligation by which one person or entity agrees to reimburse others for loss or damage arising from specified liabilities.
- OO. **Invitation to Bid.** A portion of the *Bidding Documents*; the *Advertisement for Proposals for Work or Materials* on which *Bids* are requested. The *Advertisement* will indicate the time and place of the opening of *Proposals*, the type and location of *Work* to be performed, the character and quantity of the *Material* to be furnished and provide information on how to obtain *Drawings*, *Specifications* and *Proposal*.
- PP. **Liability Insurance.** A contract under which an insurance company agrees to protect a person or entity against claims arising from a real or alleged failure to fulfill an obligation or duty to a third party who is a named or an incidental beneficiary.
- QQ. **Lump Sum Base Bid.** One type of *Proposal* where the *Bid* is established by a single item price to perform all *Work* excluding any *Alternates* that may or may not become part of the *Contract*.
- RR. **Lump Sum Grand Total.** One type of *Proposal* where the *Bid* is established as a total of various items to perform all *Work* excluding any *Alternates* that may or may not become part of the *Contract*.
- SS. **Low Bid.** The *Bid* stating the lowest price proposed for performance of the *Work*, conforming to the *Bidding Documents*.
- TT. **Lowest Responsible Bidder.** The *Bidder* who submits the lowest bona fide *Bid* and is considered by the Department to be fully responsible and qualified to perform the *Work* for which the *Bid* is submitted.
- UU. **Material(s).** Any substance and/or product specified for use in the construction of the *Project* and its appurtenances.
- VV. **Negotiated Price.** A *Proposal* modified by the *Lowest Responsible Bidder* thru communication with the Department and *Using Agency(ies)* in which changes are made to the *Proposal* and/or *Completion Date* as required to meet budget, funding or scheduling requirements.
- WW. **Notice to Proceed.** A written notice to the *Contractor* to proceed with a portion of or all of the *Contract Work*; including the beginning of *Contract* time when applicable. The Notice to Proceed shall act as the final step in awarding the *Contract* or portion thereof.
- XX. **Occurrence Policy.** An insurance policy that covers acts or omissions occurring during the policy term, regardless of when a claim against the insured is first asserted, even if the policy is no longer in existence.
- YY. **Owner's Protective Liability Coverage.** Third-party legal liability insurance coverage protecting the *State* from claims arising from the construction process.
- ZZ. **Partnership.** An association of two or more persons or entities to conduct a business that shares profits and losses at a certain proportion.

- AAA. **Professional Engineer.** Referred to as Engineer. As defined in RSA 310-A:2, a person who by reason of advanced knowledge of mathematics and the physical sciences, acquired by professional education and practical experience, is technically and legally qualified to practice engineering, and who is licensed by or otherwise authorized by State of New Hampshire Professional Engineers Board to engage in the practice of engineering. The Engineer has no contractual agreement with the *Contractor* and therefore shall not directly interact with the *Contractor*.
- BBB. **Project.** The total construction of the *Work* to be performed.
- CCC. **Proposal.** A *Bidder's* offer, on *Department* prescribed forms, to perform stated work at the quoted price(s).
- DDD. **Proposal Guaranty.** The security furnished with a *Proposal*, which shall be a *Bid Bond*, provides that the *Bidder* if awarded the *Contract* will execute such *Contract* in accordance with the requirements of the *Bidding Documents*.
- EEE. **Proprietorship (Individual).** A form of business organization that is owned entirely by one person.
- FFF. **Provide.** To furnish and install a product, materials, systems, and/or equipment, complete in place, fully tested and approved.
- GGG. **Punch List.** A written document attached to the *Certificate of Substantial Completion* listing items to be completed or corrected prior to the *State's* approval of *Final Payment*.
- HHH. **Specifications.** The volume that is part of the *Contract Documents* which contain the *General Conditions*, *Supplementary General Conditions*, *Invitation to Bid*, and individual sections that consist of written requirements for material, equipment, construction systems, standards and workmanship, and other documents or reports as applicable.
- III. **State.** The State of New Hampshire.
- JJJ. **Subcontractor.** A *Corporation*, *Partnership*, *Proprietorship*, Joint Venture or any combination thereof, to whom the *Contractor* sublets any part of the *Contract*.
- KKK. **Substantial Completion.** As determined by an inspection by the *Department* that the work or portion thereof is substantially complete, in accordance with the *Contract Documents*, such that the *State* may occupy or utilize the *Work* for its intended use without disruption or interference by the *Contractor* in completing or correcting any remaining unfinished or unacceptable *Work*.
- LLL. **Substitution.** A *Material*, product or item of equipment in place of that specified.
- MMM. **Superintendent.** The *Contractor's* authorized representative responsible for field supervision, coordination, and completion of the *Work*.
- NNN. **Supplementary General Conditions.** A part of the *Contract Documents* which supplements and may also modify, change, add to or delete from provisions of the *General Conditions*.

- OOO. **Surety.** A *Corporation, Partnership, or Proprietorship* other than the *Contractor*, executing a bond furnished by the *Contractor*.
- PPP. **Umbrella Liability Insurance.** Insurance providing coverage in an amount above existing liability policies.
- QQQ. **Unit Price.** An amount stated in a *Lump Sum Grand Total Bid* as a price per unit for an item or portion of the contract or for specific materials and/or services described in the *Contract Documents*.
- RRR. **Using Agency.** The executive department, commission, independent establishment, public corporation which is an instrumentality of a state board, bureau, division, institution, service, office, officer, authority, administration or other establishment in the executive branch of the government, who are responsible for the facility and/or will occupy the facility after and/or during the Work. The Using Agency(ies) has/have no contractual agreement with the *Contractor* and therefore shall not direct the *Contractor* in any way.
- SSS. **Work.** The construction and services required by the *Contract Documents* to furnish all labor, materials, equipment, and incidentals necessary to complete the duties, obligations, and requirements imposed by the *Contract*.
- TTT. **Workers' Compensation Insurance.** Insurance covering the liability of an employer to employees for compensation and other benefits required by workers' compensation laws with respect to injury, sickness, disease or death arising from their employment.
- UUU. **Working Day.** Any calendar day, except Saturdays, Sundays, and Contract designated legal holidays.

PART 2 CONTRACT DOCUMENTS

- 2.1 The Contract Documents consist of the Invitation to Bid, Contract Agreement, General Conditions, Supplementary General Conditions, Drawings and Specifications, including all Addenda issued prior to execution of the Contract, wage scales where applicable, Bonds where required, insurance certificates, other documents listed in the Agreement and Modifications issued after the execution of the Contract, Change Orders and Alteration Orders issued in accordance with Part 12 of the General Conditions.
- A. Hierarchy of the Contract Documents shall be interpreted according to the following classes:
1. Department approved modifications to the Contract Documents after execution of the Contract.
 2. Addenda.
 3. Supplemental General Conditions.
 4. General Conditions.
 5. Division 1 – General Requirements.
 6. Remaining Specifications.
 7. Larger Scale Drawings & Details.
 8. Remaining Drawings.
- 2.2 A fully executed Contract shall not be in effect until approved by the Governor and Council and an issuance of the Notice to Proceed by the Division.
- 2.3 This Contract is executed in a number of counterparts, each of which is an original and constitutes the entire agreement between the parties. This Contract shall be construed according to the laws of the State. No portion of this Contract shall be understood to waive the sovereign immunity of the State. This Contract shall not be amended, except as specified in Parts 13 and 20.
- 2.4 The Contract Documents are complementary and anything called for by one of the Contract Documents and not called for by the others shall be of like effect as if required by all.
- 2.5 Should the Contract Documents contain inconsistencies within a class identified in Item 2.1A, the Contractor shall provide the better quality or greater quantity of work and/or materials. The Contractor shall identify any perceived discrepancies to the Contract Administrator prior to proceeding.
- 2.6 The Contractors and all Subcontractors shall refer to all of the Contract Documents, including those not specifically showing the work of their specialized trades, and shall perform all work reasonably inferable from them as being necessary to produce the intended results in compliance with applicable Federal, State, and Local codes.

- 2.7 All indications or notations which apply to one of a number of similar situations, materials or processes shall be deemed to apply to all such situations, materials or processes wherever they appear in the work, except where a contrary result is clearly indicated by the Contract Documents.
- 2.8 Where codes, standards, requirements, and publications of public and private bodies are referred to in the Contract Documents, such references shall be understood to be to the latest final and complete revision at the time of receiving Bids unless specifically identified, except where otherwise indicated.
- 2.9 Where no explicit quality or standards for materials or workmanship is established for work, such work is to be consistent with the best quality workmanship standards of the applicable trade.
- 2.10 All manufactured articles, materials, and equipment shall be applied, assembled, installed, connected, erected, tested, cleaned, and conditioned in accordance with the manufacturer's written or printed directions and instructions, unless specifically indicated otherwise in the Contract Documents.
- 2.11 The Drawings are made to scale as identified therein, but all working dimensions shall be taken from the figured dimensions and by actual measurements at the job; in no case by scaling. The Contractor shall study and compare all of the Drawings and verify all figures before laying out or constructing work. The Contractor shall be responsible for errors in his/her work that might have been avoided thereby. Whether or not an error is believed to exist, deviation from the Drawings and the dimensions given thereon shall be made only after approval in writing from the Contract Administrator.
- 2.12 All Drawings and Specifications and copies thereof are the property of the State and shall not be used by the Contractor or Subcontractor on other Projects.

PART 3 NOTICE

- 3.1 Any written notice by either party to the Contract shall be sufficiently given if delivered to or at the last known business address of the person, partnership or corporation constituting the other party to the Contract, or to his/her, their, or its duly authorized agent, representative, or officer, or when sent by registered mail to such last known business address. The last known business address shall be that location which is last provided in writing.
- 3.2 The parties shall provide their physical location/address, mailing address, telephone number, fax number, and, where available, pager number(s), email address(es), and other methods of contact for all persons associated with the Contract.

PART 4 ACCESS TO THE WORK

- 4.1 The Contractor shall provide for access to the work, at all times, for observation and/or inspection by the Department, Architect, Consultant, Engineer and government officials having jurisdiction. The Contractor shall provide proper facilities for such access and inspection.

PART 5 ACCIDENT PROTECTION

- 5.1 It is a condition of this Contract, and shall be made a condition of each subcontract entered into pursuant to the Contract, that the Contractor, any Subcontractors, or Independent Contractors shall not require any laborer or mechanic employed in the performance of the Contract to work in surroundings or under working conditions which are unsanitary, hazardous or dangerous to the laborer's health or safety as determined by construction safety and health standards of the Occupational Safety and Health Administration, United States Department of Labor, which standards include, by reference, the established Federal Safety and Health Regulations for Construction. These standards and regulations comprise Part 1910 and Part 1926 respectively of Title 29 of the Code of Federal Regulations, as may be revised from time to time. In the event any revisions in the Code of Federal Regulations are published, such revisions will be deemed to supersede the appropriate Part 1910 and Part 1926, and be effective as of the date set forth in the revised regulation.

PART 6 HAZARDOUS MATERIALS

- 6.1 The Contractor shall also be aware of laws and regulations relating to hazardous materials that may be encountered during construction operations, either within project limits or at material sites off the project. The health and safety of employees, the general public, and the potential of damage to the overall environment is possible if hazardous materials are not recognized, reported, and the appropriate action taken to dispose of, remove from the site, or otherwise contain the possible contaminants.
- 6.2 If any abnormal condition is encountered or exposed that indicates the presence of a hazardous material or toxic waste, construction operations shall be immediately suspended in the area and the Contract Administrator notified. No further work shall be conducted in the area of the contaminated material until the site has been investigated and the Department has given approval to continue the work in the area. The Contractor shall fully cooperate with the State and perform any remedial work as directed. Work shall continue in other areas of the Project unless otherwise directed.
- 6.3 Exposure to hazardous materials may result from contact with, but not necessarily limited to, such items as drums, barrels, and other containers, waste such as cars, batteries, and building construction debris. Containers leaking unknown chemicals or liquids, abandoned cars leaking petroleum products, batteries leaking acid, construction debris which may include asbestos, or any other source of suspected hazardous material found within excavation areas or stockpiled on land within construction limits shall be referred to the Department of Environmental Services and Contract Administrator so that a proper identification of the materials may be made and disposal procedures initiated as required.
- 6.4 Disposition of the hazardous material or toxic waste shall be made under the requirements and regulations of the Department of Environmental Services. Work required to dispose of these materials and any remedial work shall be performed under a Supplemental Agreement or Contract item, if included in the Contract.

PART 7 SUBCONTRACTS

- 7.1 Nothing contained in the Specifications or Drawings shall be construed as creating any contractual relationship between any Subcontractor and the State. The Sections of the Specifications are not intended to control the Contractor in dividing the work among Subcontractors or to limit the work performed by any trade.
- 7.2 The Contractor shall be as fully responsible for the acts and omissions of Subcontractors and of persons employed by them, as he/she is for the acts and omissions of persons directly employed by him/her.
- 7.3 The Contractor shall, without additional expense to the State, utilize the services of specialty Subcontractors, as required to complete the work.
- 7.4 The Commissioner will not undertake efforts to settle or resolve any differences between the Contractor and Subcontractors or between Subcontractors.
- 7.5 The Contractor shall cause appropriate provisions to be inserted in all subcontracts relative to the work to bind Subcontractors to the Contractor by the terms of the General Conditions and other Contract Documents insofar as applicable to the work of Subcontractors and to give the Contractor the same power to terminate any subcontract that the Commissioner may exercise over the Contractor under any provisions of the Contract Documents.

PART 8 RESPONSIBILITY OF CONTRACTOR TO ACT IN EMERGENCY

- 8.1 In case of any emergency that threatens loss or injury of property, and/or safety of life, the Contractor shall act as the situation may warrant. He/she shall notify the Contract Administrator thereof immediately thereafter. Any compensation claimed by the Contractor together with substantiating documents in regard to expense, shall be submitted to the Contract Administrator and the amount of compensation shall be determined by agreement.
- 8.2 In the event the Department learns of an emergency that threatens loss or injury of property, and/or safety of life, the Department shall notify the Contractor using the contact information provided pursuant to PART 3 herein. The Department may, but shall have no duty to take reasonable steps to mitigate the damage or loss to the Contractor. In either event, the Department shall have no duty to undertake any specific acts and shall have no liability for actions or inactions taken absent gross negligence.

PART 9 MUTUAL RESPONSIBILITY OF CONTRACTORS

- 9.1 If the Contractor or any of his/her Subcontractors or employees causes loss or damage to any separate Contractor or Subcontractor on the work, the Contractor or Subcontractor agrees to settle with such separate Contractor or Subcontractor by agreement, if he/she will so settle. If such separate Contractor or Subcontractor sues the State because of any loss so sustained, the Commissioner shall notify the Contractor and/or their Subcontractors, who shall indemnify and hold harmless the State against any expenses or judgment arising therefrom.

PART 10 PAYMENTS TO CONTRACTOR

- 10.1 The State will process payments to the Contractor each month on the basis of duly certified and approved estimates of the work performed during the preceding period. In preparing estimates, the material delivered on the site and any preparatory work done may be taken into consideration. Payments will only be approved in an amount no greater than the percentage of project completion, as determined by the Contract Administrator.
- 10.2 At least ten (10) days before the end of the billing period, the Contractor shall submit to the Contract Administrator, an itemized Requisition for Payment, supported by such data substantiating the Contractor's right to payment as the Commissioner may require. If payment is to be made for materials or equipment not incorporated in the work, but delivered and suitably stored at the site, or at some other location agreed upon in writing, such payment shall be conditional upon inspection and/or observation by the Department and submission by the Contractor of bills of sale or such other procedure satisfactory to the Commissioner to establish the State's title to such materials or equipment or otherwise protect the State's interest including applicable insurance and transportation to the site.
- 10.3 Immediately upon receipt of the Monthly Requisition for Payment, Contractor shall post same at the Contractor's Field Office or project site in a location where Subcontractors have clear access.
- 10.4 Retainage:
- A. Contract Payment Withheld: A 5% retainage shall be withheld from each Progress Payment until issuance of a Certificate of Substantial Completion.. The balance remaining after the specified percentage has been retained, less all previous payments, will be certified for payment on each partial estimate.
- 10.5 Retainage will be released at Final Payment.
- A. After the Certificate of Substantial Completion has been issued, upon written application by the Contractor and with the approval of the Surety, the Commissioner may release a portion of the retained amount.
- 10.6 Payment for Material On Hand:
- A. Partial payments are made for materials to be incorporated in the Work, provided the materials meet the requirements of the Contract and are delivered on, or in the vicinity of, the Project site and stored in acceptable places. Partial payments will not exceed 90 percent of the Contract unit price for the item or the amount supported by copies of paid invoices, freight bills, or other supporting documents required by the Department. The quantity paid will not exceed the corresponding quantity estimate in the Contract. No partial payment will be made on living or perishable materials until incorporated in the Work.
- B. When material payments exceed \$100,000 or 10 percent (10%) of the total contract amount, whichever is less, notarized copies of paid invoices or copies of canceled checks for all such materials must be submitted to the Contract Administrator within 45 days of the end date of the estimate on which the material allowance was paid. Failure to provide

such documentation will result in the deduction of such material allowance from future estimates until documentation is provided.

- C. All material and work covered by partial payments made shall thereupon become the sole property of the State, but this provision shall not be construed as relieving the Contractor of the sole responsibility of all materials and work upon which payments have been made or the restoration of any damaged work or as a waiver of the right of the State to require the fulfillment of all the terms of the Contract.

10.7 Payment for Material Not on Hand:

- A. Upon receipt of a written request by the Contractor, partial payment may be made for acceptable, fully-fabricated, nonperishable materials not delivered that are unique to the Project provided the materials meet the requirements of the Contract and are stored in excess of 30 days at locations approved by the Department, and provided all required certificates of compliance, mill test reports, shop inspector's acceptance and any other required materials certification have been furnished. Materials shall be identifiable and accessible for inspection. Storage areas shall provide adequate protection so that such materials will meet the Contract requirements upon delivery to the site.
- B. Partial payment will be based on the actual cost to the Contractor as indicated on invoices furnished to the Contract Administrator. When material payments exceed \$100,000 or 10 percent of the total contract amount, whichever is less, notarized copies of paid invoices or copies of canceled checks for all such materials must be submitted to the Contract Administrator within 45 days of the end date of the estimate on which the material allowance was paid. Failure to provide such documentation will result in the deduction of such material allowance from future estimates until documentation is provided. Payment shall not exceed 90 percent of the bid price. NO payment will be made on materials for any item in the contract whose total dollar value is less than \$5,000. Approval of partial payment will not constitute final acceptance of the materials for use in completing items of work.

10.8 Release of Claims:

- A. Neither the final payment nor any part of the retained percentage shall become due until the Contractor shall deliver a complete release of all claims arising under and by virtue of this Contract, including claims for all Subcontractors and suppliers of either materials or labor, plus a release of the Contract Bond and a statement that all Subcontractors and suppliers have been paid. The Commissioner, may pay any and all such claims, in whole or in part, and deduct the amount or amounts so paid from any partial or final payment.

10.9 Final Payment:

- A. Application for Final Payment received from the Contractor will be processed for payment not less than 90 days after project acceptance and final completion unless accompanied by a release of the Contract Bond. This payment shall be the amount of the Contract, amended by approved alteration orders, less previous payments minus liquidated damages, additional penalties or holdbacks. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

10.10 Acceptance of Final Payment Constitutes Release:

- A. The acceptance of the Final Payment by the Contractor shall be and shall operate as a release to the Contractor of all claims and of all liability to the State for all things done or furnished in connection with this work. No payment, however, final or otherwise, shall operate to release the Contractor and its Sureties from any obligations under this Contract or the Contract Bond. Acceptance of Final Payment shall not impact any warranties provided by the Contractor with respect to this project.

PART 11 CONTRACTOR'S TITLE TO MATERIALS

- 11.1 No materials or supplies for the work shall be purchased by the Contractor or any Subcontractor subject to any chattel mortgage or under a conditional sale or other agreement by which an interest is retained by the seller. The Contractor warrants that good title has been obtained for all materials and supplies for which partial payment has been accepted. If any claim is made with respect to materials provided by the Contractor, Subcontractors, or Independent Contractors, the Contractor shall defend any such claim and shall pay any judgment or settlement thereon.

PART 12 CHANGES IN WORK

- 12.1 No charge for any extra work or material will be allowed without a fully executed Alteration Order. (Refer to Specification Section 01200-Price and Payment Procedures)
- 12.2 The Commissioner or his/her designee 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 the Contract and within the general scope thereof.
- 12.3 If any part of the work as installed be at variance with the Contract requirements, the Department may allow all or any part of such work to remain in place, if found to be in the best interest of the State, subject to proper adjustment in the Contract Price. Acceptance of installed work in one instance or in any instance does not constitute a waiver of Specifications, General Conditions or contract requirements.

PART 13 PATENTS

- 13.1 The Contractor shall hold the State and its officers, agents, servants, and employees harmless from liability of any nature including cost and expenses, for or on account of any patented or unpatented invention, process, article or applicable items manufactured or used in the performance of the Contract, including its use, unless otherwise specifically stipulated in the Contract Documents.

PART 14 ASSIGNMENTS

- 14.1 The Contractor shall not assign the whole or any part of this Contract or any monies due or to become due, hereunder, without the written consent of the Commissioner and of all Sureties executing any Bonds on behalf of the Contractor if in connection with said Contract.

PART 15 SUPERINTENDENCE BY CONTRACTOR

- 15.1 The Contractor shall have on the project site, at all times when work is being performed, a competent English speaking Superintendent capable of reading and thoroughly understanding the contract documents and thoroughly experienced in the type of work being performed, satisfactory to the Department. The Contractor shall not change superintendents without permission from the Department and shall submit a request in writing with justification for such a change.
- A. The Superintendent shall be responsible for verifying that all materials, installation, coordination, and workmanship are in conformance with the contract documents.
 - B. Unless the Department has granted prior written approval, the Superintendent shall not, himself, engage in "hands-on" construction work.
 - C. In the event the Superintendent fails or refuses to perform functions mentioned above as determined by the Department, the Contractor agrees to a stipulated penalty of \$1,200.00 per day, in addition to any liquidated damages provided hereunder.

FAILURE TO COMPLETE WORK ON TIME

- 15.2 If the Contractor fails to complete all of the work or sections of the Project, if sections are indicated, within the time specified in the Contract or within any additional time allowed, for each working day the Liquidated Damages identified in 16.3 will be deducted from any money due the Contractor. This deduction will be made, not as a penalty, but as fixed, agreed liquidated damages for inconvenience to the State and for reimbursing the Department and Using Agency the cost of the Administration of the Contract, including personnel, time, engineering and inspection. Should the amount of money otherwise due the Contractor be less than the amount of such liquidated damages, the Contractor and its Surety shall be liable to the State for such deficiency.
- 15.3 If the Division of Public Works Design & Construction permits the Contractor to continue and finish the work after the time fixed for its completion, it shall in no way operate as a waiver on the part of the State of any of its rights under the Contract. When the final acceptance has been duly made by the Department, any liquidated damage charges shall end.
- 15.4 The fixed, agreed, liquidated damages shall be assessed in accordance with the following schedule:

Original Contract Amount, Plus Any Extras, Alteration Orders, and Alternates		Amount of Liquidated Damages Per Working Day
From More Than:	To and Including:	
\$0	\$25,000.00	\$200.00
\$25,000.00	\$50,000.00	\$250.00
\$50,000.00	\$100,000.00	\$400.00
\$100,000.00	\$500,000.00	\$450.00
\$500,000.00	\$1,000,000.00	\$800.00
\$1,000,000.00	\$2,000,000.00	\$1,200.00
\$2,000,000.00	\$5,000,000.00	\$1,600.00
\$5,000,000.00	\$10,000,000.00	\$2,000.00
\$10,000,000.00	and above	\$2,400.00

PART 16 SUBSTANTIAL COMPLETION AND FINAL INSPECTION

- 16.1 The Contractor shall provide a signed Substantial Completion Application to the Contract Administrator when the work is believed to be substantially complete, in accordance with specification section 01700, accompanied by a list of items, referred to as the Punch List, to be completed or corrected. The failure to include any items of 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 Department who determines that the work is substantially complete, a Certificate of Substantial Completion will be issued.
- A. The Certificate of Substantial Completion shall:
1. Include any modifications to the Punch List or value as determined by the Department.
 2. Establish the Date of Substantial Completion.
 - a. Warranties required by the Contract Documents shall commence on the Date of Substantial Completion unless otherwise provided in the Certificate of Substantial Completion.
 3. Identify the responsibilities of the State and the Contractor for security, maintenance, heat, utilities, and damage to the work and insurance.
 4. Fix the time limit within which the Contractor shall complete the items listed herein.
- 16.2 Partial Occupancy or Use: The State may take occupancy or use of completed or partially completed portions of the work upon written agreement between the Commissioner and the Contractor. Said partial occupancy or use shall have the approval of the insurer and Code enforcement authorities having jurisdiction. Said partial occupancy or use, (whether substantial completion has been obtained or not) provided the Department and Contractor have agreed upon written terms detailing each of the entities responsibilities in their entirety, may be exercised under these General Conditions.
- A. A Written agreement shall stipulate the time period for completion of all Work and the commencement date for all applicable contract warranties. Said written agreement shall be preceded by a Contractor generated listing of all incomplete Work, meeting with the approval of the Department, before partial occupancy or use is taken by the State with prior approval of the Division.
- 16.3 If the Contractor fails to complete the items on the "punch list," by the date specified on the Substantial Completion Certificate, then in addition to the corrective measures listed in the Certificate of Substantial Completion, the State may use the monies still due the Contractor to have such items completed and the Contractor shall lose any claim to the monies so used. The Surety may be notified of any delay or failure to complete the work.
- 16.4 Upon written notice that the work is ready for final inspection and acceptance, the Department shall promptly make such inspection, to determine the work is acceptable under the Contract Documents and the Contract fully performed. The Contractor shall submit a request for payment, specifically identifying Final Payment. The Contractor shall provide all certificates and reports, as required, throughout the contract and shall coordinate their preparation and submission prior to request for final payment. Failure to submit such certificates and reports shall be considered default of contract.

PART 17 DEFAULT AND TERMINATION OF CONTRACT**17.1 If the Contractor:**

- A. Fails to begin work under Contract within the time identified in specification section 01100.
- B. Fails to perform the work with sufficient workers and equipment, or with sufficient materials to assume 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 the work, or
- E. Fails to resume work, which has been discontinued, within a reasonable time after notice to do so, or
- F. Becomes insolvent or has declared bankruptcy, or commits any act of bankruptcy or insolvency, or
- G. Makes an assignment for the benefit of creditors, or
- H. For any other causes whatsoever, fails to carry on the work in an acceptable manner.

17.2 The Commissioner will give notice, in writing, to the Contractor and his Surety for such delay, neglect, and default for any item identified above.

- A. Upon receipt of Notification of Default and the Contractor or Surety does not proceed in accordance with said Notification, then the Commissioner will Terminate the Contract. Upon which, the Commissioner shall have full power and authority, without violating the Contract, to assume the prosecution of the work. The Commissioner may enter into one or more agreements for the completion of said Contract according to the terms and conditions thereof, or use such other methods as will be required for the completion of said Contract in an acceptable manner.
 - I. All extra costs and charges incurred by the Department as a result of such delay, neglect or default, together with the cost of completing 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 that 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.

PART 18 TERMINATION OF CONTRACT WITHOUT FAULT

- 18.1 Except in cases controlled by the preceding section, the Commissioner, for any cause, including, but not limited to an order of any Federal authority or petition of the Contractor due to circumstances beyond its control may, by written notice to the Contractor and the Surety, with the concurrence of the Governor and Council, terminate the Contract or any portion thereof subject to the Condition(s) A, B, C, and D provided below.
- 18.2 Notwithstanding anything to the contrary contained in these conditions, it is understood and agreed by the parties hereto that all obligations of the Department hereunder, including the continuance of payments, are contingent upon the availability and continued appropriation of State and/or Federal Funds, and in no event shall the Department be liable for any payments hereunder in excess of such available or appropriated funds. In the event of a reduction, termination or failure to appropriate any, or all such available funds or appropriations or a reduction of expenditures of State funds by the Advisory Budget Control Committee, the Commissioner may, by written notice to the Contractor and Surety, immediately terminate this Contract in whole or in part in accordance with the following conditions:
- A. When a Contract, or portion thereof, is terminated before completion of all items of work in the Contract, payment will be made for the actual items of work completed. Payment of items of work not completed at time of termination shall be the greater of the following amounts:
 - 1. A percentage of the Contract unit price, which percentage shall be the percentage of completion of the particular item at time of termination.
 - 2. Such amount as shall be mutually agreed upon by the parties. No claim for loss of anticipated profits on items or units of work not completed will be allowed.
 - B. Reimbursement for organization of the work and mobilization, when not otherwise included in the Contract, shall be made where the volume of work completed is too small to compensate the Contractor for these expenses under the Contract; the intent being that an equitable settlement be made with the Contractor.
 - C. Acceptable materials, obtained or ordered by the Contractor for the work, and that are not incorporated in the work shall, at the option of the Contractor, be purchased from the Contractor based upon the delivered cost of the materials at such points of delivery as may be designated by the Department. The Contractor shall do everything possible to cancel unfilled orders.
 - D. Termination of a Contract, or a portion thereof, shall not relieve the Contractor of its responsibilities for the work completed nor shall it relieve the Surety of its obligations for and concerning any claims arising out of the work performed.

PART 19 ASSIGNMENT PROVISION

- 19.1 The Contractor hereby agrees that it will assign to the State, all causes of action that it may acquire under the anti-trust laws of New Hampshire and the United States as a result of conspiracies, combinations of contracts in restraint of trade which affect the price of goods or services obtained by the State under this Contract, if so requested by the State.

END OF SECTION

DOCUMENT 00818

SUPPLEMENTARY CONDITIONS – DPW

PART I GENERAL

I.1 SUMMARY

- A. The following supplements modify, change, delete or add to the General Conditions. Where any part of the General Conditions are modified or voided by these sections, the unaltered provisions of that part shall remain in effect.

I.2 MODIFICATIONS TO VARIOUS ARTICLES OF THE GENERAL CONDITIONS

- A. Part 10, Payments to Contractor
1. Delete Item 10.5 and replace with the following.
 - a. As each line item of the schedule of values is certified by the Contract Administrator and the surety company as completed, that portion of the retained funds which is allocable to the completed line item shall be released to the prime contractor, who shall, within 15 days of its receipt, release to the subcontractor responsible for the completed work, the full amount of any retainage withheld.
 - b. Upon final completion of the work, retained amounts of progress payments not previously released to the contractor shall be included in the final payment to the contractor.
- B. Part 15, Superintendence by Contractor
1. Approval is hereby granted for the Superintendent to perform work, solely as ancillary services to their primary role as Superintendent's work on the Project.
- C. Part 16, Failure to Complete Work on Time
1. Remove the liquidated damages schedule of item 16.3 and replace with the following schedule:

Original Contract Amount, Plus Any Extras, Alteration Orders, and Alternates		Amount of Liquidated Damages Per Working Day
From More Than:	To and Including:	
\$0	\$25,000.00	\$200.00
\$25,000.00	\$50,000.00	\$250.00
\$50,000.00	\$100,000.00	\$400.00
\$100,000.00	\$500,000.00	\$450.00
\$500,000.00	\$1,000,000.00	\$800.00
\$1,000,000.00	\$2,000,000.00	\$1,200.00
\$2,000,000.00	\$5,000,000.00	\$1,600.00
\$5,000,000.00	\$10,000,000.00	\$2,000.00
\$10,000,000.00	and above	\$2,400.00

END OF DOCUMENT

SECTION 01100

SUMMARY

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Contract description.
- B. Contractor's use of site and premises.
- C. Work sequence.
- D. State occupancy.
- E. Specification Conventions.

1.2 CONTRACT DESCRIPTION

- A. Work of the Project includes repaving and new pavement as well as removal of the concrete top of the concrete tunnel and fill the tunnel to grade.
- B. SITE EXAMINATION
 - 1. A visit to Project site has been arranged for Bidders at 10:30 on 8/30/24
- C. Perform Work of Contract under stipulated lump sum grand total contract with State in accordance with Conditions of Contract.
- D. The Contractor shall, except as otherwise specifically stated in the Contract Documents, provide and pay for all materials, labor, tools, equipment, water, heat, fuel, light, power, transportation, superintendence, temporary construction of every nature, and all other services and facilities of every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

1.3 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Limit use of site and premises to allow:
 - 1. State occupancy.
- B. Emergency Building Exits During Construction: Shall be maintained and all building entrances and exits shall remain functional.
- C. Construction Operations: Limited to [areas noted on Drawings]

- D. Time Restrictions for Performing [Interior] [Exterior] Work: Normal working hours of [7:00] am to [3:00] pm, Monday through Friday with the following restrictions:
1. No access during the following observed holidays:
 - a. New Year's Day.
 - b. Martin Luther King Jr. Civil Rights Day.
 - c. President's Day.
 - d. Memorial Day.
 - e. Independence Day.
 - f. Labor Day.
 - g. Veterans' Day.
 - h. Thanksgiving Day.
 - i. Day after Thanksgiving.
 - j. Christmas Day.
 2. Access for work outside of normal working hours shall be requested in writing to the Contract Administrator, at least one week in advance. The Contract Administrator may accept or reject the request.
- E. Utility Outages and Shutdown: [Shall be coordinated with the building users to minimize disruption of services, and may require work to take place outside of normal working hours.]

1.4 WORK SEQUENCE

- A. Work shall commence within 15 days after issuance of Notice to Proceed. Failure to comply shall constitute Default of Contract.

1.5 STATE OCCUPANCY

- A. Cooperate with State to minimize conflict, and to facilitate State's operations.
- B. Schedule the Work to accommodate State occupancy.

1.9 SPECIFICATION CONVENTIONS

- C. These specifications are written in imperative mood and streamlined form. This imperative language is directed to the Contractor, unless specifically noted otherwise. The words "shall be" are included by inference where a colon (:) is used within sentences or phrases.

END OF SECTION

SECTION 01200

PRICE AND PAYMENT PROCEDURES

PART I GENERAL

1.1 SECTION INCLUDES

- A. Allowances.
- B. Testing and inspection.
- C. Schedule of values.
- D. Requisition for payment.
- E. Change procedures.
- F. Defect assessment.

1.2 ALLOWANCES

- A. Allowance: Include in the Contract, a stipulated sum/price of \$125,000 for use upon the Bureau's 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.
- B. 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.
- C. Funds will be drawn from an Allowance only by Change Order. Contractor can proceed with Change Order Work against Allowance with direction from the Contract Administrator. The Contractor shall not proceed with any work that will exceed the amount of Allowance remaining.
- D. 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.
- E. Notwithstanding the Contractor's objection, the Contract Administrator may at any time reduce the funds remaining in the Allowance by Alteration Order.
- F. At Final Payment of the Contract, funds remaining in the Allowance will be credited to the State.

1.3 TESTING AND INSPECTION

- A. Cost of engaging testing and inspecting agency; execution of tests and inspecting; and reporting results shall be included in the bid.

1.4 SCHEDULE OF VALUES

- A. Submit printed schedule on AIA Form G703 - Continuation Sheet for G702. Contractor's standard form or electronic media printout will be considered.
- B. Submit Schedule of Values in duplicate within 15 days after date of issuance of Notice to Proceed. Failure to submit within specified time period will constitute Default of Contract.
- C. Format: Utilize Table of Contents of these Specifications. Identify each line item with number and title of major specification Section. Identify bonds and insurance, allowances
- D. Include a separate line item for the amount of each Allowance and Alternates specified in this section. For unit cost Allowances, identify quantities taken from Contract Documents multiplied by unit cost to achieve total for each item.
- E. Revise schedule to list approved Alteration Orders, with each Requisitions For Payment.

1.5 REQUISITION FOR PAYMENT

- A. Submit three copies of each application on the Bureau's Requisition for Payment Form.
- B. Content and Format: Items on the Requisition for Payment shall be consistent with the items on the Proposal Form. Utilize the Schedule of Values as documentation for payment items.
- C. Submit updated construction schedule with each Requisition for Payment.
- D. Payment Period: Submit at intervals stipulated in Document 00708 General Conditions NH-, DPW, Item 10.
- E.
- F. Submit with transmittal letter as specified in Section 01330.
- G. Substantiating Data: When the Contract Administrator requires substantiating information, submit data justifying dollar amounts in question.
- H. Include the following with Requisition for Payment, payment will not be processed if any items are missing or incomplete:
 - 1. Current construction photographs specified in Section 01330.
 - 2. Record documents as specified in Section 01700, for review by the Contract Administrator, which will be returned to Contractor.
 - 3. Affidavits attesting to off-site stored products.
 - 4. Construction progress schedules, revised and current as specified in Section

01330.

1.6 CHANGE PROCEDURES

- A. Submittals: Submit name of individual authorized to receive change documents, and be responsible for informing others in Contractor's employ or Subcontractors of changes to the Work.
- B. The Contract Administrator will advise of minor changes in the Work not involving adjustment to Contract Sum/Price or Contract Time, or that may be necessary to carry out the work included in the Contract, by issuing supplemental instructions.
- C. The Contract Administrator may issue a Proposal Request including a detailed description of proposed change(s) with supplementary or revised Drawings and specifications, a change in Contract Time for executing the change. The Contractor will prepare and submit estimate within ten days.
- D. Contractor may propose changes by submitting a request for change(s) to the Contract Administrator, describing proposed change and its full effect on the Work. Each request shall be a separate item and sequentially numbered. Include a statement describing reason for the change, and effect on Contract Sum/Price and Contract Time with full documentation and a statement describing effect on Work by separate or other Contractors.
- E. Stipulated Sum/Price Change Order: Based on Proposal Request and Contractor's fixed price quotation or Contractor's request for Change Order as approved by the Contract Administrator. Submit the breakdown of the following items on a Bureau Stipulated Sum/Price Change Order Form for review and approval by the Contract Administrator:
 - 1. The Contractor shall include the following indirect costs for work performed by the General Contractor as part of the Contractors' price:
 - a. Worker's Compensation and Employee Liability.
 - b. Unemployment and Social Security Taxes.
 - 2. In addition to the above indirect costs the General Contractor shall be allowed the following markups:
 - a. Twenty percent (20%). Said twenty percent (20%) shall be all inclusive for overhead, supervision, and profit for Work performed by the General Contractor
 - b. Materials (Actual Cost + 10%): For all materials entering permanently into the work plus freight charges thereon, and for all labor not entered directly on his payroll, the Contractor will receive the actual cost, as shown by original receipted bills forwarded to the Contract Administrator, to which cost will be added an amount equal to ten percent (10%) of the sum thereof. Bills presented by the Contractor for material taken back from his stock will be subject to the ten percent (10%) allowance if approved by the Contract Administrator.
 - c. Equipment (Reasonable Rental Charge + 0%): For any trucks, machinery or special equipment, the Contractor will receive a reasonable rental charge to which sum no percentage will be added. This rental charge shall be agreed upon in writing before the work is begun and shall include an operator and all fuel, lubricants, and the upkeep of the

- equipment. Equipment does not include small tools and accessories for small tools.
Ten percent (10%) on that part of work performed by Subcontractors.
The same percentages above shall apply to Subcontractors.
3. On any change that involves a net credit to the State, no allowance for overhead, supervision and profit shall be figured.
 4. Extension of Contract Time: State any requests for extension of Contract Time with justification for such a request.
- F. Unit Price Change Order: For contract unit prices and quantities, the Change Order will be executed on fixed unit price basis. For unit costs or quantities of units of work which are not pre-determined, execute Work under Construction Change Directive. Changes in Contract Sum/Price or Contract Time will be computed as specified for Time and Material Change Order.
- G. Construction Change Directive : The Contract Administrator may issue directive, signed by the Bureau Director or Deputy Director, instructing the Contractor to proceed with change in the Work, for subsequent inclusion in a Time and Material Change Order. Document will describe changes in the Work, and designate method of determining any change in Contract Sum/Price or Contract Time. Promptly execute change. Failure to comply will result in Default of Contract.
- H. Time and Material Change Order: Submit itemized account and supporting data within 10 days of completion of change. The Contract Administrator will determine change allowable in Contract Sum/Price and Contract Time as provided in Contract Documents.
1. Maintain detailed records of work done on Time and Material basis. Provide full information required for evaluation of proposed changes, and to substantiate costs for changes in the Work.
 2. Document each quotation for change in cost or time with sufficient data to allow evaluation of quotation. If acceptable, a Change Order for a Not to Exceed Amount will be prepared.
 3. The Contractor as payment in full, including superintendence and overhead, shall accept the compensation herein provided and profit, for extra work performed. For all such work, the Contractor shall furnish certified copies of the payrolls on forms provided for that purpose, invoices of all materials, and such other information as may be required by the Contract Administrator. Submit the breakdown of items on a Bureau Time and Material Change Order Form for review and approval by the Contract Administrator:
 - a. Labor (Actual wage + 40%): The Construction Superintendent is responsible for logging the time for each individual. For all laborers and foremen engaged on the specific operation and entered directly on the Contractor's payroll, the Contractor will receive the actual rate of wage for each and every hour said laborers and Foremen are actually engaged in such work to which will be added an amount equal to forty percent (40%) of the sum thereof, which percentage shall include the cost percentages of the following items as applied to the labor cost involved:
 - 1) Contract Bond Premium.
 - 2) Public Liability Insurance.
 - 3) Worker's Compensation Insurance.

- 4) Federal Social Security.
 - 5) Unemployment Compensation Taxes
 - b. Materials (Actual Cost + 10%): For all materials entering permanently into the work plus freight charges thereon, and for all labor not entered directly on his payroll, the Contractor will receive the actual cost, as shown by original receipted bills forwarded to the Contract Administrator, to which cost will be added an amount equal to ten percent (10%) of the sum thereof. Bills presented by the Contractor for material taken back from his stock will be subject to the ten percent (10%) allowance if approved by the Contract Administrator.
 - c. Equipment (Reasonable Rental Charge + 0%): For any trucks, machinery or special equipment, the Contractor will receive a reasonable rental charge to which sum no percentage will be added. This rental charge shall be agreed upon in writing before the work is begun and shall include an operator and all fuel, lubricants, and the upkeep of the equipment. Equipment does not include small tools and accessories for small tools.
 4. In addition to the above costs the General Contractor shall be allowed the following markups:
 - a. Twenty percent (20%). Said twenty percent (20%) shall be all inclusive for overhead, supervision, and profit for Work performed by the General Contractor
 - b. Ten percent (10%) on that part of work performed by Subcontractors.
 - c. The same percentages above shall apply to Subcontractors.
 5. Extension of Contract Time: State any requests for extension of Contract Time with justification for such a request.
- I. Any Changes that result in a credit to any portion of the contract and/or a change in the Contract Time must be processed as an Alteration Order except as provided for in Item 1.2E.
- J. Execution of Alteration Orders: Bureau of Public Works will issue Alteration Orders per the following procedures.
1. The Contract Administrator reviews cost for Change in Work with the Using Agency and Consultant(s). If needed the Contract Administrator will request additional items, back-up information, and request any possible changes or clarifications.
 2. Bureau Accountant will prepare an Alteration Order on a Bureau form.
 3. Bureau Director or Deputy Director will issue the Alteration Order to the Contractor for review and signature.
 4. Contractor submits signed Alteration Order to the Bureau Director.
 5. The Bureau completes the Alteration Order with the signature of the Bureau Director or Deputy Director.
 6. A fully signed and executed Alteration Order is issued to Contract Administrator, Clerk of the Works, Contractor, and Using Agency.
- K. Execution of Change Orders: The Contractor is responsible for preparing and updating a spreadsheet log itemizing all Proposed Changes. A separate spreadsheet shall be completed for each Allowance Item. The spreadsheet shall include columns for Proposed

Change Number, Description, Amount of Change, Status, and Approved Amounts. In addition a current balance remaining shall be included. Change Orders will be processed per the following procedures:

1. The Contract Administrator reviews cost for Change in Work with the Using Agency and Consultant(s). If needed the Contract Administrator will request additional items, back-up information, and request any possible changes or clarifications.
2. Contract Administrator and Using Agency Representative signs Change Order.
3. Contractor can proceed with Change Order Work with direction from the Contract Administrator.
4. Contractor shall not proceed with any work that will exceed the amount of Allowance remaining.
5. Fully signed and executed Change Order is issued to the Contract Administrator, Clerk of the Works, Contractor, and the Using Agency.

L. Correlation Of Contractor Submittals:

1. Promptly revise Schedule of Values and Application for Payment forms to record each authorized Alteration Order as separate line item and adjust Contract Sum/Price.
2. Promptly revise progress schedules to reflect change in Contract Time, revise sub-schedules to adjust times for other items of work affected by the change, and resubmit.
3. Promptly enter changes in Project Record Documents.

1.7 DEFECT ASSESSMENT

- A. Replace the Work, or portions of the Work, not conforming to specified requirements.
- B. If, in the opinion of the Contract Administrator, it is not practical to remove and replace the Work, the Contract Administrator will direct appropriate remedy or adjust payment.
- C. The defective Work may remain, but unit sum/price will be adjusted to new sum/price at discretion of the Contract Administrator.
- D. Defective Work will be repaired to instructions of and acceptance by the Contract Administrator, and unit sum/price will be adjusted to new sum/price at discretion of the Contract Administrator.
- E. Authority of the Contract Administrator to assess defects and identify payment adjustments, is final.
- F. Non-Payment For Rejected Products: Payment will not be made for rejected products for any of the following:
 1. Products wasted or disposed of in a manner that is not acceptable.
 2. Products determined as unacceptable before or after placement.
 3. Products not completely unloaded from transporting vehicle.
 4. Products placed beyond lines and levels of required Work.
 5. Products remaining on hand after completion of the Work.
 6. Loading, hauling, and disposing of rejected products.

END OF SECTION

SECTION 01300

ADMINISTRATIVE REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Coordination and project conditions.
- B. State Labor Requirements
- C. Preconstruction meeting.
- D. Site mobilization meeting.
- E. Progress meetings.
- F. Pre-installation meetings.
- G. Cutting and patching.
- H. Special procedures.

1.2 COORDINATION AND PROJECT CONDITIONS

- A. Coordinate scheduling, submittals, and Work of various sections of the Specifications to ensure efficient and orderly sequence of installation of interdependent construction elements
- B. Comply with the "Underground Utility Damage Prevention System" per NH RSA 374 Sections 48 through 56 by notification to DIG-SAFE SYSTEM, Inc., of intent to excavate within 100 feet of an underground utility. Contact DIG-SAFE at 1-888-334-7233 (1-888-DIG-SAFE) or on-line at <http://www.digsafe.com> at least seventy-two (72) hours in advance of starting any excavation. Saturday, Sundays, and legal holidays are not included in the computation of the required seventy-two (72) hour notice. Some utilities are owned by the agency. See drawings for contact information of Private Utility surveyor.
- C. Maintain proper environmental conditions for installation of all building components and materials. This shall include but not be limited to manufacturers recommended temperature and humidity requirements. Maintain a weather tight building envelope and protect new work from any kind of spillage.
- D. Prior to the start of any Work, provide an independent company to locate utilities potentially affected by the Work and as shown and/or identified in the Contract Documents. All utilities shall be identified by the Contractor on the Record Drawings.

- E. Verify utility requirements and characteristics of operating equipment are compatible with building utilities. Coordinate work of various sections having interdependent responsibilities for installing, connecting to, and placing in service, operating equipment.
- F. Coordinate space requirements, supports, and installation of mechanical and electrical Work indicated diagrammatically on Drawings. Follow routing shown for pipes, ducts, and conduit, as closely as practicable; place runs parallel with lines of building. Utilize spaces efficiently to maximize accessibility for other installations, for maintenance, and for repairs.
- G. In finished areas except as otherwise indicated, conceal pipes, ducts, and wiring within construction. Coordinate locations of fixtures and outlets with finish elements.
- H. Coordinate completion and clean-up of Work of separate sections in preparation for Substantial
- I. After State occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of State's activities.

1.3 STATE LABOR REQUIREMENTS

- A. Work Certificate for Contractors Before Beginning Their Work on Public Projects
 - 1. Pursuant to RSA 21-1:80 and RSA 228:4-b, prior to any work being done by an individual contractor, such contractor, including ALL subcontractors and independent contractors, shall provide a Work Certificate for Contractors Before Beginning their Work on Public Projects (Work Certificate) to the Contract Administrator. Sample form can be obtained at <http://das.nh.gov/publicworks/pwdocuments.asp>
 - 2. The Work Certificate of this Contractor is required to be provided for APPROVAL of the Contract. This Work Certificate shall be provided to the Contractor during the Contract approval process by the NH DOT Bureau of Finance & Contracts. All required information shall be completed with attached documentation and shall be returned to the NH Department of Transportation, Bureau of Finance and Contracts.
 - 3. Subcontractors, including main and lower tier, will not be allowed to perform any work until their Work Certificates have been submitted to the Contract Administrator via this Contractor.
 - 4. This Contractor shall maintain a log of all submitted subcontractor Work Certificates on-site. The log shall identify all main and lower-tier subcontractors and the status of the Work Certificate submission. This log shall be reviewed at each Progress Meeting to coordinate scheduled work with required Work Certificate submissions. An up-dated log shall be submitted with each Payment Application.
 - 5. This Contractor shall keep a copy of all Work Certificates on the jobsite, either in electronic or hardcopy form.
- B. The Contractor shall obey all applicable State and Federal Labor laws.

- C. Pursuant to RSA 21-I:81-a, the Contractor shall provide to the Contract Administrator a list of the names and addresses of the CEO, CFO, other LLC principals, and each subcontractor to be used in the performance of the contract. This list shall be provided at the Preconstruction meeting. The name and address of each subcontractor shall be provided on the Subcontractor/Employee Master List (below).
- D. The Contractor shall maintain a Subcontractor/Employee Master List (Master List) of all personnel performing work on the job site, including the Contractor's employees, all subcontractors and subcontractor employees, and all independent contractors. Pursuant to RSA 21-I:81-b, the Master List shall identify which entity has hired each subcontractor and independent contractor and which entity is providing Workers Compensation coverage for the on-site personnel. The Master List shall also confirm that each employee has an OSHA-10 certification as required per RSA 277:5-a. Subcontractors and independent contractors will not be allowed to perform any work until they have been correctly identified on the Master List. A sample Master List document, created in Microsoft Word, can be obtained at <http://das.nh.gov/publicworks/pwdocuments.asp>. The initial Master List submission shall be at the Preconstruction meeting.
- E. The Master List shall be posted on the jobsite and updated as needed to reflect any new subcontractors and independent contractors. The Master List shall be reviewed at each Progress Meeting. On a monthly basis, the Contractor shall provide to the Contract Administrator a .pdf or Microsoft Word file of the Master List, showing all current subcontracts.
- F. The Contractor shall maintain a daily log-in sheet of all personnel performing work on the jobsite. Personnel shall list their name, name of employer or identify themselves as independent contractors. No contractor, subcontractor or independent contractor performing work on the job site shall be allowed on site without first signing the daily log-in sheet.
- G. The Contractor shall verify that personnel listed on the daily log-in sheet are also listed on the Master List. If personnel are not listed on the Master List, they will not be allowed on site until their employer has certified, in writing, that the employee is covered under Workers Compensation coverage for the appropriate work classification noted on the Work Certificate.
- H. The Contractor shall post six (6) mandatory labor posters in a conspicuous, weather-tight place at the jobsite: Protective Legislation Law; Criteria to Establish an Employee or Independent Contractor; NH Minimum Wage Law; and Whistleblowers Protection Act; Workers Right to Know; Equal Pay Law. These posters can be found at the NH Dept. of Labor website <https://www.nh.gov/labor/forms/mandatory-posters.htm>
- I. The Contractor shall maintain, on the jobsite, copies of OSHA-10 certificates for all personnel listed on the Master List and required per RSA 277:5-a to have OSHA-10 certificates.

1.4 PRECONSTRUCTION MEETING

- A. The Contract Administrator will schedule meeting at the Project site prior to Contractor occupancy.

- B. Attendance Required (unless otherwise waived): Contract Administrator, Clerk of the Works, Using Agency Representative(s), Contractor, Contractor's Superintendent, and major Subcontractors.
- C. Potential Agenda Topics:
1. Distribution of Contract Documents. The Contract is responsible for any and all reproduction of Contract Documents.
 2. The Contractor shall submit Work Certificate(s) (as defined in this Section) for the Contractor and all known subcontractors.
 3. Submission of Work Certificate Log.
 4. Submission of names and addresses of the Contractor's CEO, CFO, other LLC principals, and each subcontractor. The name and address of each subcontractor shall be reported on the Master List.
 5. Submission of Master List of subcontractors and all personnel expected to be on site.
 6. Review daily log-in sheet requirement and format. Contractor shall verify that personnel listed on log-in sheet are also on Master List.
 7. Review file of OSHA-10 certificates for all on-site personnel required to be certified per RSA 277:5-a.
 8. Verify that all mandatory labor posters are posted in a conspicuous, weather-tight place.
 9. Submission of list of products, schedule of values, and progress schedule.
 10. **Submittal and posting of Excavation Tax Certificate, as required per RSA 72-B if over 1000CY of material are anticipated to be removed from the site.**
 11. Designation of personnel representing parties in Contract.
 12. Use of premises by State and Contractor.
 13. State's requirements and occupancy.
 14. Construction facilities and controls provided by State.
 15. Temporary utilities provided by State.
 16. Security and housekeeping procedures.
 17. Schedules.
 18. Traffic Control Plan.
 19. Application for payment procedures.
 20. Procedures for testing.
 21. Procedures for maintaining record documents.
 22. Requirements for start-up of equipment.
 23. Inspection and acceptance of equipment put into service during construction period.
- D. Contract Administrator shall record minutes and distribute copies within two days after meeting to participants, with one copy to each person in attendance and one to those affected by decisions made.

1.5 PROGRESS MEETINGS

- A. Schedule and administer meetings throughout progress of the Work at maximum bi-weekly intervals.

- B. Attendance Required (unless otherwise waived): Contract Administrator, Clerk of the Works, Using Agency Representative(s), Contractor, Contractor's Superintendent, and major Subcontractors.
- C. Potential Agenda Topics:
1. Review minutes of previous meetings.
 2. Review of Work progress.
 3. Field observations, problems, and decisions.
 4. Identification of problems impeding planned progress.
 5. Review of submittals schedule and status of submittals.
 6. Review Work Certificate Log.
 7. Review Master List of subcontractors and on-site personnel.
 8. Review daily log-in sheets. Contractor shall verify that all personnel on log-in sheets are on Master List and all OSHA-10 certificates required per RSA 277:5-a are on file.
 9. Review of off-site fabrication and delivery schedules.
 10. Maintenance of progress schedule.
 11. Corrective measures to regain projected schedules.
 12. Planned progress during succeeding work period.
 13. Traffic Control Plan.
 14. Coordination of projected progress.
 15. Maintenance of quality and work standards.
 16. Effect of proposed changes on progress schedule and coordination.
 17. Other business relating to Work.
- D. Contractor shall record minutes and distribute copies within two days after meeting to participants, with one copy to each person in attendance and one to those affected by decisions made.

1.6 PRE-INSTALLATION MEETING(S)

- A. When required in individual specification sections, convene pre-installation meetings at Project site prior to commencing work of specific section.
- B. Require attendance of parties directly affecting, or affected by, Work of specific section.
- C. Notify the Contract Administrator seven days in advance of meeting date.
- D. Contractor shall prepare agenda and preside at meeting:
1. Review conditions of installation, preparation and installation procedures.
 2. Review coordination with related work.
- E. Contractor shall record minutes and distribute copies within two days after meeting to participants, with one copy to each person in attendance and one to those affected by decisions made.

PART 2 EXECUTION

2.1 CUTTING AND PATCHING

- A. Employ skilled and experienced installer to perform cutting and patching.
- B. Submit written request in advance of cutting or altering elements affecting:
 - 1. Structural integrity of element.
 - 2. Integrity of weather-exposed or moisture-resistant elements.
 - 3. Efficiency, maintenance, or safety of element.
 - 4. Visual qualities of sight exposed elements.
 - 5. Work of State or separate contractor.
- C. Execute cutting, fitting, and patching [including excavation and fill,] to complete Work, and to:
 - 1. Fit the several parts together, to integrate with other Work.
 - 2. Uncover Work to install or correct ill-timed Work.
 - 3. Remove and replace defective and non-conforming Work.
 - 4. Remove samples of installed Work for testing.
 - 5. Provide openings in elements of Work for penetrations of mechanical and electrical Work.
- D. Execute work by methods to avoid damage to other Work, and to provide proper surfaces to receive patching and finishing.
- E. Cut masonry and concrete materials using masonry saw or core drill.
- F. Restore Work with new products in accordance with requirements of Contract Documents.
- G. Fit Work tight to pipes, sleeves, ducts, conduit, and other penetrations through surfaces.
- H. Maintain integrity of wall, ceiling, roof, or floor construction; completely seal voids.
- I. Refinish surfaces to match adjacent finishes. For continuous surfaces, refinish to nearest intersection; for assembly, refinish entire unit.
- J. Identify hazardous substances or conditions exposed during the Work to the Contract Administrator for decision or remedy.

2.2 SPECIAL PROCEDURES

- A. Materials: As specified in product sections; match existing with new products [and salvaged products] for patching and extending work.
- B. Employ skilled and experienced installer to perform alteration work.
- C. Cut, move, or remove items as necessary for access to alterations and renovation Work. Replace and restore at completion.

- D. Remove unsuitable material not marked for salvage, including rotted wood, corroded metals, and deteriorated masonry and concrete. Replace materials as specified for finished Work.
- E. Remove debris and abandoned items from area and from concealed spaces.
- F. Prepare surface and remove surface finishes to permit installation of new work and finishes.
- G. Close openings in exterior surfaces to protect [existing] work from weather and extremes of temperature and humidity. Provide temporary heating, cooling and dehumidification systems for specific product requirements identified within specification sections.
- H. Remove, cut, and patch Work in manner to minimize damage and to permit restoring products and finishes to [original] [or] [specified] condition.
- I. Refinish existing visible surfaces to remain in renovated rooms and spaces, to [specified] [renewed] condition for each material, with neat transition to adjacent finishes.
- J. Where new Work abuts or aligns with existing, provide smooth and even transition. Patch Work to match existing adjacent Work in texture and appearance.
- K. When finished surfaces are cut so that smooth transition with new Work is not possible, terminate existing surface along straight line at natural line of division and submit recommendation to Contract Administrator for review.
- L. Where change of plane of 1/4inch or more occurs, submit recommendation for providing smooth transition to [Contract Administrator for review].
- M. Trim existing doors to clear new floor finish. Refinish trim to [original] [or] [specified] condition.
- N. Replace portions of [existing] [new] surfaces, which are damaged, lifted, discolored, or showing other imperfections, which do not conform to product specifications.
- O. Patch or replace portions of existing surfaces which are damaged, lifted, discolored, or showing other imperfections.
- P. Finish surfaces as specified in individual product sections.

END OF SECTION

SECTION 01330

SUBMITTAL PROCEDURES

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Submittal procedures.
- B. Construction progress schedules.
- C. Subcontractor list.
- D. Shop drawings.
- E. Test reports.
- F. Construction photographs.

1.2 SUBMITTAL PROCEDURES

- A. Contractor can provide and maintain a collaborative, secure, online software for electronic exchanging, reviewing, and archiving construction submittals, RFI's and other design and construction communications. This software is for the use of the Contract Administrator, Clerk of the Works, Owner's Representatives, Architect/Engineer and special consultants and shall allow privileges to read and write. Submittal Exchange is the preferred software supplier, or equal, as approved by the Contract Administrator.
- B. Contractor to also provide one hard-copy of all approved submittals to the Clerk of the Works.
- C. At completion of the project the Contactor shall provide two (2) digital copies on compact discs or USB drives.
- D. Transmit each submittal with Division accepted form.
- E. Sequentially number transmittal forms. Mark revised submittals with original number and sequential alphabetic suffix.
- F. Identify Project, Contractor, subcontractor and supplier; pertinent drawing and detail number, and specification section number, appropriate to submittal.
- G. Apply Contractor's stamp, signed or initialed certifying that review, approval, verification of products required, field dimensions, adjacent construction Work, and coordination of information is in accordance with requirements of the Work and Contract Documents. Incomplete items or items submitted without the Contractor's signed stamp of approval thereon will be returned rejected.

- H. Schedule submittals to expedite Project Coordinate submission of related items. Deliver to:
cc: below when submittals are sent directly to Architect and or Engineer.

Wyatt Porter-Brown

james.a.porter-brown@das.nh.gov
John O. Morton Building, Rm. 250
7 Hazen Drive, POB 483
Concord, NH 03302-0483
- I. For each submittal for review, allow 14 days excluding delivery time to and from Architect, Engineer and the Division and Contractor.
I. All shop drawings to be returned to from A/E via email Contractor from the Contract Administrator. Direct return of shop drawings from Architect or Engineer to Contractor is not permitted.
- J. Identify variations from Contract Documents and product or system limitations that may be detrimental to successful performance of completed Work.
- K. Allow space on submittals for Contractor and Architect or Engineer review stamps.
- L. When revised for resubmission, identify changes made since previous submission.
- M. Distribute copies of reviewed submittals as appropriate. Instruct parties to promptly report inability to comply with requirements.
- N. Submittals not requested will not be recognized or processed.
- O. Work shall not begin until [All] submittal items have been approved and returned to General Contractor by the Contract Administrator.

1.3 CONSTRUCTION PROGRESS SCHEDULES

- A. Submit initial schedules at PreConstruction Meeting.
- B. Submit revised Progress Schedules with [each] Application for Payment.
- C. Distribute copies of reviewed schedules to Project site file, subcontractors, suppliers, and other concerned parties.
- D. Instruct recipients to promptly report, in writing, problems anticipated by projections indicated in schedules.
- E. Submit horizontal bar chart with separate line for each [major portion of Work or operation] [section of Work], identifying first work day of each week.
- F. Show complete sequence of construction by activity, identifying Work of separate stages and other logically grouped activities. Indicate early and late start, early and late finish, float dates, and duration.

- G. Revisions To Schedules:
1. Indicate progress of each activity to date of submittal, and projected completion date of each activity.
 2. Identify activities modified since previous submittal, major changes in scope, and other identifiable changes.
- 1.4 SUBCONTRACTOR LIST
- A. Submit list, at the Pre Construction Meeting, of subcontractors setting forth in detail the work for which they will be responsible. In addition, the General Contractor shall identify what work will be performed with the Bidder's own forces.
- 1.5 SHOP DRAWINGS
- A. Shop Drawings: Submit for review for limited purpose of checking for conformance with information given and design concept expressed in Contract Documents.
- B. Indicate special utility and electrical characteristics, utility connection requirements, and location of utility outlets for service for functional equipment and appliances.
- C. Submit electronic copies to Contract Administrator, Clerk of the Works, Architect, Engineer, Subconsultant, and Using Agency.
- D. After review and distribute in accordance with SUBMITTAL PROCEDURES article and for record documents described in Section 01700. Keep on hard copy of each approved submittal on site.
- 1.6 TEST REPORTS
- A. Submit for Contract Administrator's and Architect or Engineer's and State's knowledge.
- B. Submit test reports for information for limited purpose of assessing conformance with information given and design concept expressed in Contract Documents.
- 1.7 CONSTRUCTION PHOTOGRAPHS
- A. Provide photographs of site and construction throughout progress of Work produced by an experienced photographer, acceptable to the Contract Administrator.
- B. Each month submit photographs [with Application for Payment.
- C. Photographs: Submit digital images via e-mail or on compact discs.
- D. Identify each image. Identify name of Project, contract number orientation of view, date and time of view.

END OF SECTION

SECTION 01400

QUALITY REQUIREMENTS

PART I GENERAL

1.1 SECTION INCLUDES

- A. Quality control and control of installation.
- B. Tolerances
- C. References.
- D. Safety
- E. Supervision
- F. Testing and inspection services.
- G. Examination.
- H. Preparation.

1.2 QUALITY CONTROL AND CONTROL OF INSTALLATION

- A. Monitor quality control over suppliers, manufacturers, products, services, site conditions, and workmanship, to produce Work of specified quality. Prior to acceptance of approved materials on site, establish & maintain controlled environmental conditions required for proper, sequential installations. Products affected by inadequate environmental control (in storage or installed) shall be removed, disposed of and replaced in-kind with no adjustment to the contract price or work schedule.
- B. Comply with manufacturers' instructions, including each step in sequence.
- C. When manufacturers' instructions conflict with Contract Documents, request clarification from the Contract Administrator before proceeding.
- D. The Contractor shall notify the Contract Administrator of any discrepancies, ambiguities or obvious omissions found in the Contract Documents before proceeding with the work affected thereby. Such notification shall be made in writing requesting clarification and/or interpretation with reasonable promptness consistent with and reasonably inferable from the Contract Documents. If the Contractor fails to make such request, no excuse will thereafter be entertained for failure to carry out work in a satisfactory manner, and no monies will be paid for correcting of items.
- E. The Contractor shall give the Contract Administrator timely notice of any additional drawings, specifications or instructions required to define the work in greater detail or to permit the proper progress of the work.

- F. Comply with specified standards as minimum quality for the Work except where more stringent tolerances, codes, or specified requirements indicate higher standards or more precise workmanship.
- G. Where, on any of the Drawings, a portion of the work is drawn out and the remainder is indicated in outline, the parts drawn out shall also apply to all other portions of the work.
- H. Perform Work by persons qualified to produce required and specified quality.
- I. Verify field measurements are as indicated on Shop Drawings or as instructed by manufacturer.
- J. Secure products in place with positive anchorage devices designed and sized to withstand stresses, vibration, physical distortion, or disfigurement.

1.3 TOLERANCES

- A. Monitor fabrication and installation tolerance control of products to produce acceptable Work. Do not permit tolerances to accumulate.
- B. Comply with manufacturers' tolerances. When manufacturers' tolerances conflict with Contract Documents, request clarification from the Contract Administrator before proceeding.
- C. Adjust products to appropriate dimensions; position before securing products in place.

1.4 REFERENCES

- A. Conform to reference standard by date prior to the date of receiving bids, except where specific date is established by code. The standard referred to, except as modified in the specifications, shall have full force and effect as though printed in the Specifications.
- B. Obtain copies of standards where required by product specification sections.
- C. When specified reference standards conflict with Contract Documents, request clarification from the Contract Administrator before proceeding.
- D. Neither contractual relationships, duties, nor responsibilities of parties in Contract nor those of Architect or Engineer shall be altered from Contract Documents by mention or inference otherwise in reference documents.
- E. The Contractor shall comply with all applicable Federal, State, Local laws, ordinances, regulations, and requirements to work hereunder, including building code requirements. If the Contractor ascertains at any time that any requirement of this Contract is at variance with applicable laws, ordinances, regulations or building code requirements, he/she shall notify the Contract Administrator in writing.

1.5 SAFETY

- A. The Contractor shall, at all times, safely guard the State's property and persons from injury or loss in connection with this Contract. The Contractor shall, at all times, safely guard and protect their own work and that of adjacent property from damage. All passageways, guard fences, lights, and other facilities required for protection by Federal, State or Municipal laws and regulations must be provided and maintained.
- B. Place upon the work or any part thereof, only such loads as are consistent with the safety of that portion of the work.

1.6

1.7 SUPERVISION

- A. All work shall be done under the observation and inspection of the Contract Administrator.
- B. The Contract Administrator may observe, examine and test materials and workmanship at any and all times during manufacture and/or construction, and at any and all places where such manufacture and/or construction is carried on.
- C. The Contract Administrator shall suspend work that may be subject to damage by climatic conditions.
- D. Prior to final acceptance, the Contract Administrator at any time before final acceptance of the entire work to make an examination of work already completed that was not specifically called for to receive an inspection prior to covering over, and shall require removing or tearing out same, the Contractor shall, upon request, promptly furnish all necessary facilities, labor, and materials. If such work is found to be defective in any material respect, due to the fault of the Contractor or his Subcontractors, he shall defray all expenses of such examination and of satisfactory reconstruction. If however, such work is found to meet the requirements of the Contract, the actual cost of labor and material necessarily involved in the examination and replacement, shall be completed per a Time and Material Alteration Order.

1.8 TESTING AND INSPECTION SERVICES

- A. Employ and pay for services of an independent testing agency or laboratory acceptable to the State to perform specified testing.
 - 1. Prior to start of Work, submit testing laboratory name, address, and telephone number, and names of full time [registered Engineer] [specialist] and responsible officer.
 - 2. Submit copy of report of laboratory facilities inspection made by Materials Reference Laboratory of National Institute of Standards & Technology during most recent inspection, with memorandum of remedies of deficiencies reported by inspection.

- B. The independent firm will perform tests, inspections and other services specified in individual specification sections and as required by the Contract Administrator and Authority having jurisdiction.
1. Laboratory: Authorized to operate at Project location.
 2. Laboratory Staff: Maintain full time specialist on staff to review services.
 3. Testing Equipment: Calibrated at reasonable intervals with devices of an accuracy traceable to National Institute of Standards and Technology or accepted values of natural physical constants.
- C. Testing, inspections and source quality control may occur on or off project site. Perform off-site testing as required by the Contract Administrator.
- D. Reports will be submitted by independent firm to the Contract Administrator [and Contractor], in duplicate, indicating observations and results of tests and indicating compliance or non-compliance with Contract Documents.
- E. Cooperate with independent firm; furnish samples of materials, design mix, equipment, tools, storage, safe access, and assistance by incidental labor as requested.
1. Notify the Contract Administrator and independent firm 24 hours prior to expected time for operations requiring services.
 2. Make arrangements with independent firm and pay for additional samples and tests required for Contractor's use.
- F. Testing and employment of testing agency or laboratory shall not relieve Contractor of obligation to perform Work in accordance with requirements of Contract Documents.
- G. Re-testing or re-inspection required because of non-conformance to specified requirements shall be performed by same independent firm on instructions by the Contract Administrator. Payment for re-testing or re-inspection will be charged to Contractor.
- H. Testing Agency/Laboratory Responsibilities:
1. Test samples of mixes submitted by Contractor.
 2. Provide qualified personnel at site. Cooperate with the Contract Administrator and Contractor in performance of services.
 3. Perform specified sampling and testing of products in accordance with specified standards.
 4. Ascertain compliance of materials and mixes with requirements of Contract Documents.
 5. Promptly notify the Contract Administrator and Contractor of observed irregularities or non-conformance of Work or products.
 6. Perform additional tests required in accordance with specification sections.
 7. Attend preconstruction meetings and progress meetings.
- I. Testing Agency/Laboratory Reports: After each test, promptly submit two copies of report to the Contract Administrator and two to the Contractor. When requested by the Contract Administrator or Contractor, provide interpretation of test results. Include the following:
1. Date issued.
 2. Project title and number.

3. Name of inspector.
 4. Date and time of sampling or inspection.
 5. Identification of product and specifications section.
 6. Location in Project.
 7. Type of inspection or test.
 8. Date of test.
 9. Results of tests.
 10. Conformance with Contract Documents.
- J. Limits On Testing Agency/Laboratory Authority:
1. Testing Agency or laboratory may not release, revoke, alter, or enlarge on requirements of Contract Documents.
 2. Testing Agency or laboratory may not approve or accept any portion of the Work.
 3. Testing Agency or laboratory may not assume duties of Contractor.
 4. Testing Agency or laboratory has no authority to stop the Work.

PART 2 EXECUTION

2.1 EXAMINATION

- A. Verify existing site conditions, controlled environment, protective measures and substrate surfaces are acceptable for subsequent Work. Beginning new Work means acceptance of existing conditions.
- B. Verify existing substrate is capable of structural support or attachment of new Work being applied or attached.
- C. Examine and verify specific conditions described in individual specification sections. Notify the Contract Administrator and the Clerk of the Works of conditions, which prevent start of work.
- D. Verify utility services are available, of correct characteristics, and in correct locations.

2.2 PREPARATION

- A. Maintain specific environmental controls required in individual sections.
- B. Clean substrate surfaces prior to applying next material or substance.
- C. Seal cracks or openings of substrate prior to applying next material or substance.
- D. Apply manufacturer required or recommended substrate primer, sealer, or conditioner prior to applying new material or substance in contact or bond.

END OF SECTION

SECTION 01500

TEMPORARY FACILITIES AND CONTROLS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Temporary Utilities:
 - 1. Temporary electricity.
 - 2. Temporary lighting for construction purposes.
 - 3. Temporary heating.
 - 4. Temporary ventilation.
 - 5. Equipment.
 - 6. Temporary water service.
 - 7. Temporary sanitary facilities.

- B. Construction Facilities:
 - 1. Vehicular access.
 - 2. Parking.
 - 3. Progress cleaning and waste removal.
 - 4. Project identification.
 - 5. Traffic regulation.

- C. Temporary Controls:
 - 1. Barriers.
 - 2. Enclosures and fencing.
 - 3. Security.
 - 4. Water control.
 - 5. Dust control.
 - 6. Erosion and sediment control.
 - 7. Pollution control.

- D. Removal of utilities, facilities, and controls.

- E. All work completed herein must conform to applicable state, federal requirements, and guidelines at the Contractor's expense as is necessary to complete the Work.

1.2 TEMPORARY ELECTRICITY

- A. State will pay cost of energy used. Exercise measures to conserve energy. Utilize State's existing power service.

- B. Provide temporary electric feeder from existing building electrical service at location as directed by State. Do not disrupt State's use of service.

- C. Complement existing power service capacity and characteristics as required for construction operations.

- D. Permanent convenience receptacles may be utilized during construction.
 - E. Provide branch wiring from power source to distribution boxes with lighting conductors, pigtails, and lamps for specified lighting levels.
 - F. Maintain lighting required and provide routine repairs.
 - G. Permanent building lighting may be utilized during construction.
- 1.3 TEMPORARY HEATING
- A. Existing facilities shall not be used.
 - B. Provide and pay for heating devices and heat as needed to maintain specified conditions for construction operations.
- 1.4 TEMPORARY VENTILATION
- A. Ventilate enclosed areas to achieve curing of materials, to dissipate humidity, and to prevent accumulation of dust, fumes, vapors, or gases.
- 1.5 TEMPORARY WATER SERVICE
- A. State will pay cost of temporary water. Exercise measures to conserve energy. Utilize State's existing water system, extend and supplement with temporary devices as needed to maintain specified conditions for construction operations.
 - B. Extend branch piping with outlets located so water is available by hoses with threaded connections. Provide temporary pipe insulation to prevent freezing.
- 1.6 TEMPORARY SANITARY FACILITIES
- A. Provide and maintain required facilities and enclosures. Existing facility use is not permitted. Provide facilities at time of project mobilization.
- 1.7 FIELD OFFICES AND SHEDS
- A. Do not use existing facilities for field offices or for storage.
 - B. State will provide space for Project meetings.
 - C. Locate sheds minimum distance of 30 feet from existing structures.
 - D. Storage Areas And Sheds: Size to storage requirements for products of individual Sections, allowing for access and orderly provision for maintenance and for inspection of products.
 - E. Preparation: Fill and grade sites for temporary structures sloped for drainage away from buildings.

1.8 VEHICULAR ACCESS

- A. Provide and maintain access to fire hydrants and valves free of obstructions.
- B. Provide means of removing mud from vehicle wheels before entering streets.

1.9 PARKING

- A. Locate as approved by the Contract Administrator.
- B. When site space is not adequate, provide additional off-site parking.
- C. Use of designated areas of existing parking facilities used by construction personnel is not permitted.
- D. Do not allow heavy vehicles or construction equipment in parking areas.
- E. Maintenance:
 - 1. Maintain traffic and parking areas in sound condition free of excavated material, construction equipment, products, mud, snow, and ice.
 - 2. Maintain existing and permanent paved areas used for construction; promptly repair breaks, potholes, low areas, standing water, and other deficiencies, to maintain paving and drainage in original, or specified, condition.
- F. Removal, Repair:
 - 1. Remove temporary materials and construction when permanent paving is usable.
 - 2. Remove underground work and compacted materials to depth of 2 feet fill and grade site as specified.
 - 3. Repair existing facilities damaged by use, to original condition.
- G. Mud From Site Vehicles: Provide means of removing mud from vehicle wheels before entering streets.

1.10 PROGRESS CLEANING AND WASTE REMOVAL

- A. Maintain areas free of waste materials, debris, and rubbish. Maintain site in clean and orderly condition.
- B. Remove debris and rubbish from pipe chases, plenums, attics, crawl spaces, and other closed or remote spaces, prior to enclosing spaces.
- C. Broom and vacuum clean interior areas prior to start of surface finishing, and continue cleaning to eliminate dust.
- D. Collect and remove waste materials, debris, and rubbish from site periodically and dispose off-site.

1.11 PROJECT IDENTIFICATION

- A. Installation:

1. Install project identification sign prior to start of construction.
 2. Erect at designated location.
 3. Erect supports and framing on secure foundation, rigidly braced and framed to resist wind loadings.
 4. Install sign surface plumb and level, with butt joints. Anchor securely.
 5. Paint exposed surfaces of sign, supports, and framing.
- B. Maintenance: Maintain signs and supports clean, repair deterioration and damage.
- C. Removal: Remove signs, framing, supports, and foundations at completion of Project and restore area.
- 1.12 TRAFFIC REGULATION
- A. Flag Persons: Provide trained and equipped flag persons to regulate traffic when construction operations or traffic encroach on traffic lanes.
- 1.13 BARRIERS
- A. Provide barriers to prevent unauthorized entry to construction areas to allow for State's use of site, and to protect existing facilities and adjacent properties from damage from construction operations and demolition.
- B. Protect non-owned vehicular traffic, stored materials, site, and structures from damage.
- 1.14 ENCLOSURES AND FENCING
- A. Construction: Commercial grade chain link fence.
- B. Provide 6 feet high fence around construction site; equip with vehicular and pedestrian gates with locks.
- 1.15 SECURITY
- A. Security Program:
1. Protect Work existing premises and State's operations from theft, vandalism, and unauthorized entry.
 2. Maintain protection throughout construction period until directed by the Contract Administrator.
- B. Entry Control:
1. Restrict entrance of persons and vehicles into Project site.
 2. Allow entrance only to authorized persons with proper identification.
 3. Maintain log of workers and visitors, make available to State on request.
 4. Coordinate access of State's personnel to site in coordination with State's security forces.

1.16 WATER CONTROL

- A. Grade site to drain. Maintain excavations free of water. Provide, operate, and maintain pumping equipment.
- B. Protect site from puddling or running water. Provide water barriers as required to protect site from soil erosion.

1.17 DUST CONTROL

- A. Execute Work by methods to minimize raising dust from construction operations.
- B. Provide positive means to prevent air-borne dust from dispersing into atmosphere.

1.18 EROSION AND SEDIMENT CONTROL

- A. Plan and execute construction by methods to control surface drainage from cuts and fills, from borrow and waste disposal areas. Prevent erosion and sedimentation.
- B. Minimize surface area of bare soil exposed at one time.
- C. Provide temporary measures including berms, dikes, and drains, and other devices to prevent water flow.
- D. Construct fill and waste areas by selective placement to avoid erosive surface silts or clays.
- E. Periodically inspect earthwork to detect evidence of erosion and sedimentation; promptly apply corrective measures.

1.19 POLLUTION CONTROL

- A. Provide methods, means, and facilities to prevent contamination of soil, water, and atmosphere from discharge of noxious, toxic substances, and pollutants produced by construction operations.
- B. Comply with pollution and environmental control requirements of authorities having jurisdiction.

1.20 REMOVAL OF UTILITIES, FACILITIES, AND CONTROLS

- A. Remove temporary utilities, equipment, facilities, materials, prior to Final Application for Payment inspection.
- B. Remove underground installations to minimum depth of 2 feet Grade site as indicated on Drawings.
- C. Clean and repair damage caused by installation or use of temporary work.

- D. Restore existing and permanent facilities used during construction to original condition.
Restore permanent facilities used during construction to specified condition.

SECTION 01505

CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Construction waste management plan.
 - 2. Construction waste recycling.
 - 3. Construction waste adaptive reuse.

1.2 PLAN REQUIREMENTS

- A. Construction Waste Management Plan shall be developed with the following intent:
 - 1. Divert construction, demolition, and land clearing debris from landfill disposal.
 - 2. Redirect recyclable material back to manufacturing process.
- B. Develop and implement a Construction Waste Management plan to be reviewed by the Contract Administrator for compliance with the following
 - 1. Divert 75 % of Project generated waste from landfills.
 - 2. Alternate plan?

1.3 SUBMITTALS

- A. Section 01330 - Submittal Procedures: Requirements for submittals.
- B. Construction Plan: Submit construction waste management plan describing methods and procedures for implementation and monitoring compliance including the following:
 - 1. Project specific analysis of the projected jobsite waste to be generated. Include materials and estimated quantities (weight/volume) of projected waste.
 - 2. Construction waste materials anticipated for recycling and adaptive reuse.
 - 3. On site sorting and site storage methods.
 - 4. Name and location of landfill(s) to be used.
 - 5. Certification from the landfill of ability to receive the types of waste to be generated and of sufficient capacity to accept the waste.
 - 6. Transportation company hauling construction waste to waste processing facilities.
 - 7. Recycling and adaptive reuse processing facilities and waste type each facility will accept.
- C. Submit documentation with each application for payment substantiating that the construction waste management plan goals are being achieved. Include the following information:
 - 1. Material category
 - 2. Trash: Quantity by weight deposited in landfills.

3. Salvaged, recovered and recycled material: Quantity by weight with destination for each type of material salvaged or recovered for resale, recycling, or adaptive reuse.

1.4 CLOSEOUT SUBMITTALS

- A. Section 01700 - Execution Requirements: Requirements for submittals.
- B. Waste Management final report: Prior to Completion, submit a written Waste Management Final report summarizing the types and quantities of materials recycled and disposed of under the Waste Management Plan. Include the name and location of disposal facilities. Include the following:
 1. Material category
 2. Total quantity of waste, by weight
 3. Quantity of waste salvaged, both estimated and actual, by weight
 4. Quantity of waste recycled, both estimated and actual, by weight
 5. Total quantity of waste recovered (salvaged plus recycled) as a percentage of total waste. (Compare to minimum requirement of 75% by weight of waste.)

1.5 CONSTRUCTION WASTE MANAGEMENT PLAN

- A. Construction Waste Landfill Diversion: Minimum 75 percent by weight of construction waste materials for duration of Project through resale, recycling, or adaptive reuse.
- B. Implement construction waste management plan at start of construction.
- C. Review construction waste management plan at pre-construction meeting and progress meetings.
- D. Distribute the Construction Waste Management Plan to subcontractors and others affected by Plan Requirements.
- E. Oversee plan implementation, instruct construction personnel for plan compliance, and document plan results.
- F. Manager: The Contractor shall designate on-site personnel responsible for instructing workers and overseeing and documenting results of the Waste Management Plan for the Project.

1.6 CONSTRUCTION WASTE RECYCLING

- A. Use source separation method or co-mingling method suitable to sorting and processing method of selected recycling center.
- B. Source Separation Method: Recyclable materials separated from trash and sorted into separate bins or containers, identified by waste type, prior to transportation to recycling center.

- C. Co-Mingling Method: Recyclable materials separated from trash and placed in unsorted bins or container for sorting at recycling center.
- D. Materials recommended for recycling include:
 - 1. Recyclable plastics.
 - 2. Organic plant debris.
 - 3. Earth materials.
 - 4. Native stone and granular fill.
 - 5. Concrete and Asphalt paving.
 - 6. Wood with and without embedded nails and staples.
 - 7. Metals.
 - 8. Equipment oil.

1.7 CONSTRUCTION WASTE ADAPTIVE RE-USE

- A. Arrange with processing facility for salvage of construction material and processing for reuse. Do not reuse construction materials on site except as identified in the Contract Documents.
- B. Materials recommended for adaptive reuse include:
 - 1. Concrete and crushed concrete.
 - 2. Masonry units.
 - 3. Lumber suitable for re-sawing or refinishing.

PART 2 PRODUCTS - Not Used

PART 3 EXECUTION

3.1 CONSTRUCTION WASTE COLLECTION

- A. Collect construction waste materials in containers identified for specific waste materials and arrange for transportation to recycling centers or adaptive salvage and reuse processing facilities.
- B. Maintain recycling and adaptive reuse storage and collection area in orderly arrangement with materials separated to eliminate co-mingling of materials required to be delivered separately to waste processing facility.
- C. Store construction waste materials to prevent environmental pollution, fire hazards, hazards to persons and property, and contamination of stored materials.
- D. Cover construction waste materials subject to disintegration, evaporation, settling, or runoff to prevent polluting air, water, and soil when not in use.
- E. Recycling and waste bin areas are to be kept neat and clean and clearly marked in order to avoid contamination of materials. Location shall be acceptable to the Contract Administrator.

3.2 CONSTRUCTION WASTE DISPOSAL

- A. Deliver construction waste to waste processing facilities. Obtain receipt for deliveries.
- B. Dispose of construction waste, not capable of being recycled or adaptively reused, by delivery to landfill, incinerator, or other legal disposal facility. Obtain receipt for deliveries.

END OF SECTION

SECTION 01600

PRODUCT REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Products.
- B. Product delivery requirements.
- C. Product storage and handling requirements.
- D. Product options.
- E. Product substitution procedures.

1.2 PRODUCTS

- A. Furnish products of qualified manufacturers suitable for intended use. Furnish products of each type by single manufacturer unless specified otherwise.
- B. The use of asbestos containing materials shall be prohibited.

1.3 PRODUCT DELIVERY REQUIREMENTS

- A. Transport and handle products in accordance with manufacturer's instructions.
- B. Promptly inspect shipments to ensure products comply with requirements, quantities are correct, and products are undamaged.
- C. Provide equipment and personnel to handle products by methods to prevent soiling, disfigurement, or damage.

1.4 PRODUCT STORAGE AND HANDLING REQUIREMENTS

- A. Store and protect products in accordance with manufacturers' instructions.
- B. Store with seals and labels intact and legible.
- C. Store sensitive products in weather tight, climate controlled, enclosures in an environment favorable to product.
- D. For exterior storage of fabricated products, place on sloped supports above ground.
- E. Provide bonded off-site storage and protection when site does not permit on-site storage or protection only with prior approval from the Contract Administrator.

- F. Cover products subject to deterioration with impervious sheet covering. Provide ventilation to prevent condensation and degradation of products.
- G. Store loose granular materials on solid flat surfaces in well-drained area. Prevent mixing with foreign matter.
- H. Provide equipment and personnel to store products by methods to prevent soiling, disfigurement, or damage.
- I. Arrange storage of products to permit access for inspection. Periodically inspect to verify products are undamaged and are maintained in acceptable condition.

1.5 PRODUCT OPTIONS

- A. Products Specified by Reference Standards or by Description Only: Any product meeting those standards or description.
- B. Products Specified by Naming One or More Manufacturers with or without provision for substitutions: Products of one of manufacturers named and meeting specifications, no options or substitutions allowed. Submit request for substitution for any manufacturer not named in accordance with the following article.

1.6 PRODUCT SUBSTITUTION PROCEDURES

- A. Where Bidding Documents stipulate particular Products, substitution requests will ONLY be considered before receipt of Bids. Submit requests per the requirements specified in this section.
 - 1. All requests shall be submitted to the Contract Administrator not later than eight (8) working days before the hour and day set for bid opening. Incomplete requests or requests received after this deadline will not be considered.
 - 2. All requests that are approved and are acceptable to the Department will be issued as part of an Addendum to each Bidder who has received a set of bidding documents, so that all Bidders may avail themselves of the change in submitting their Proposals.
- B. Substitutions [may] be considered after bid opening when a product becomes unavailable through no fault of the Contractor. The Contractor shall apply to the Contract Administrator, in writing, within ten (10) days of his realizing his inability to furnish the article specified, describing completely the substitution he desires to make. The Contractor shall include a dated written statement from the manufacturer outlining an explanation for the unavailability of the product. Substitutions for reasons of lead times, i.e., the time between when the Contractor orders necessary materials from the vendor and anticipated delivery, will only be reviewed if the lead time is more than the length of the contract time. The Department may extend the contract time to accommodate the product specified. No additional costs from the Contractor will be considered due to the fact that the Contractor shall verify lead times and coordinate with contract time during the bidding phase.
- C. Document each request with complete data substantiating compliance of proposed Substitution with Contract Documents.

- D. A request constitutes a representation that Bidder:
1. Has investigated proposed product and determined that it meets or exceeds quality level of specified product.
 2. Will provide same warranty for Substitution as for specified product.
 3. Will coordinate installation and make changes to other Work which may be required for the Work to be complete with no additional cost to the State.
 4. Waives claims for additional costs or time extension which may subsequently become apparent.
 5. Will reimburse Department and Architect and/or Engineer for review or redesign services associated with re-approval by authorities having jurisdiction.
- E. Substitutions will not be considered when they are indicated or implied on Shop Drawing or Product Data submittals, without separate written request, or when acceptance will require revision to Contract Documents.
- F. Substitution Submittal Procedure:
1. Submit three copies of request for Substitution for consideration. Limit each request to one proposed Substitution.
 2. Submit Shop Drawings, Product Data, and certified test results attesting to proposed product equivalence. Burden of proof is on proposer.
 3. The Department will notify Bidders in writing of decision to accept by issuing an addendum.

END OF SECTION

SECTION 01700

EXECUTION REQUIREMENTS

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Closeout procedures.
- B. Final cleaning.
- C. Protecting installed construction.
- D. Project record documents.
- E. Clean air certification.
- F. Guarantee of work.

1.2 CLOSEOUT PROCEDURES

- A. Submit a signed Substantial Completion Application attesting that the Contract Documents have been reviewed, Work has been inspected, and that all Work is complete in accordance with Contract Documents and ready for Contract Administrator review. The Substantial Completion Application for use by the Contractor is attached to the end of this specification section. The Contract Administrator may modify this Agreement to accommodate any changes in Work.
 - 1. Provide submittals to the Contract Administrator as required by the Contract Documents and as required by authorities having jurisdiction.
- B. Only after completion of all Punch List items and submission of all items the Contractor shall submit a Final Application for Payment identifying total adjusted Contract Sum, previous payments, and sum remaining due.

1.3 FINAL CLEANING

- A. Execute final cleaning prior to final project assessment.
- B. Clean site; sweep paved areas, rake clean landscaped surfaces.
- C. Remove waste and surplus materials, rubbish, and construction facilities from site.

1.4 PROTECTING INSTALLED CONSTRUCTION

- A. Protect installed Work and provide special protection where specified in individual specification sections.
- B. Prohibit traffic from landscaped areas.

1.5 PROJECT RECORD DOCUMENTS

- A. Maintain on site one set of the following record documents; record actual revisions to the Work:
 - 1. Drawings.
 - 2. Specifications.
 - 3. Addenda.
 - 4. Change Orders and other modifications to the Contract.
 - 5. Reviewed Shop Drawings, Product Data, and Samples.
 - 6. Manufacturer's instruction for assembly, installation, and adjusting.
- B. Ensure entries are complete and accurate, enabling future reference by State.
- C. Store record documents separate from documents used for construction.
- D. Record information concurrent with construction progress, not less than weekly.
- E. Specifications: Legibly mark and record at each product section description of actual products installed, including the following:
 - 1. Manufacturer's name and product model and number.
 - 2. Product substitutions or alternates utilized.
 - 3. Changes made by Addenda and modifications.
- F. Record Drawings and Shop Drawings: Legibly mark each item to record actual construction including:
 - 1. Measured depths of foundations in relation to finish [first] [main] floor datum.
 - 2. Measured horizontal and vertical locations of underground utilities and appurtenances, referenced to permanent surface improvements.
 - 3. Measured locations of internal utilities and appurtenances concealed in construction, referenced to visible and accessible features of the Work.
 - 4. Field changes of dimension and detail.
 - 5. Details not on original Contract drawings.
- G. Submit documents to the Contract Administrator at time of Substantial Completion.
- H. In addition to the above requirements, record drawings shall also be submitted in AutoCAD (.dwg) format.

1.6 CLEAN AIR CERTIFICATION

- A. The Contractor shall employ the services of a Certified Industrial Hygienist using a laboratory accredited by the American Industrial Hygiene Association to comply with **RSA 10-B, ENV-A 2200** Clean Air in State Buildings Rules (New Hampshire Air Program Rules).
- B. Certification of properly collected and analyzed data that demonstrates compliance with said standards will be made by the Department of Environmental Services, Bureau of Environmental and Occupational Health, Radon Indoor Air Quality Program, 29 Hazen Drive, Concord, NH 03302-0095, telephone 603/271-3911) upon receipt of data submitted by the Certified Industrial Hygienist.

- C. In accordance with Env-A 2200 & Env-A 2205 Standards, the following must be addressed:
1. Ventilation.
 2. Noise.
 3. Radon.
 4. Carbon Dioxide.
 5. Asbestos.
 6. Formaldehyde.
 7. Carbon Monoxide
- D. The Contractor shall furnish the Clean Air Certification to the Contract Administrator prior to project Substantial Completion and before building occupancy.

1.7 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 one (1) year 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 Contract Administrator, 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 shall, promptly upon receipt of notice from the Commissioner, and at his own expense:
1. Place in satisfactory condition in every particular, all such guaranteed work, correct all defects therein.
 2. Make good all damage to the building or site, or equipment or contents thereof, which in the opinion of the Contract Administrator, 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.
 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 Contract Administrator 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/her 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 term of this paragraph during the first year of the life of such special guarantee.
- F. Failure to adhere to guarantee terms may result in suspension or barring from the prequalification list, or, alternatively, the requirement of a Letter of Credit or other guaranty equal to a percentage of the Contract amount.

END OF SECTION

SECTION 018900
SITE CONSTRUCTION PERFORMANCE REQUIREMENTS

PART 1 - GENERAL

1.0.1 DESCRIPTION

- A. This Section specifies the general requirements for the site work included in the Contract.
- B. These requirements supplement those contained in the Standard General Conditions of the Construction Contract and their Supplemental Conditions.
- C. References are included in this Section to Articles of the General Conditions to call the Contractor's attention to frequently needed requirements.

1.0.2 PERMITS

- A. Unless otherwise provided in the Supplementary Conditions, the Contractor shall obtain and pay for all construction permits and licenses. The Owner shall assist Contractor, when necessary, in obtaining such permits and licenses. The Contractor shall pay all charges and inspection fees necessary for the prosecution of the Work, and shall pay all charges of utility owners for connections to the Work.

1.0.3 LAWS AND REGULATIONS

- A. Contractor shall give all notices and comply with all laws and regulations applicable to furnishing and performance of the Work.
- B. If the Contractor performs any work that is contrary to laws or regulations, the Contractor shall bear all claims, costs, losses and damages caused by, arising out of or resulting therefrom.

1.0.4 UTILITIES

- A. Shown or Indicated: The information and data shown or indicated in the Contract Documents with respect to existing underground facilities (utilities) at or contiguous to the site is based on information and data furnished to Owner or Engineer by the owners of such underground facilities (utilities) or by others.
 - 1. The Owner and Engineer shall not be responsible for the accuracy or completeness of any such information or data; and
 - 2. The cost of all of the following will be included in the Contract and Contractor shall have full responsibility for: (i) reviewing and checking all such information and data; (ii) locating all underground facilities (utilities) shown or indicated in the Contract Documents; (iii)

coordination of the Work with the owners of such underground facilities (utilities) during construction; and (iv) the safety and protection of all such underground facilities (utilities) and repairing any damage thereto resulting from the Work.

- B. Not Shown or Indicated: If an underground facility (utility) is uncovered or revealed at or contiguous to the site which was not shown or indicated in the Contract Documents, the Contractor shall, promptly after becoming aware thereof and before further disturbing conditions affected thereby or performing any Work in connection therewith (except in an emergency), notify the Owner and work with the Owner to identify the owner of such underground facility (utility). Upon identification of the owner of the underground facility (utility), the Contractor shall give written notice to that facility (utility) owner and to the Owner and Engineer. Engineer will promptly review the underground facility (utility) and determine the extent, if any, to which a change is required in the Contract Documents to reflect and document the consequences of the existence of the underground facility (utility). If the Engineer concludes that a change in the Contract Documents is required, revised plans and specifications will be issued to reflect and document such consequences. During such time, the Contractor shall be responsible for the safety and protection of such underground facility (utility).
- C. Contractor shall notify all municipal agencies and utility companies owning or operating utilities, of proposed work affecting the utilities, or agencies. See Drawings for list of municipal agencies and utility companies.
- D. Contractor shall give written notification within the time period required by the agency or company for advance notification. A copy of the notification shall be furnished to the Engineer.
- E. Contractor shall notify "DIG SAFE" before commencing any work in the vicinity of existing subsurface utilities.
- F. Contractor shall secure in-place existing utilities whose support is affected by the work and cooperate and assist the agency or company operating the utility in maintaining the utility services. Contractor shall correct any damage to the utilities caused by construction operations by repair or replacement, as required by the utility owner. When the repair or replacement is made by the utility owner, Contractor shall pay all costs assessed by the utility owner for the work.
- G. If the existing utilities are found to conflict with the proposed work, the Contractor shall protect and maintain the utilities and take measurements to determine the location, type and dimensions of the utility. The information shall be furnished to the Engineer who will determine the changes required in the proposed work or existing utilities to resolve the conflict as soon thereafter as is reasonable.
- H. Contractor shall verify the location, size, invert elevation and type of existing facilities at all points of connection prior to ordering new utility materials.

1.0.5 SOILS INFORMATION

- A. Not used.

1.0.6 SOIL SUPPORT

- A. Contractor shall furnish and install excavation soil support devices or use soil strengthening techniques required to perform excavations in accordance with the current requirements of the U.S. Department of Labor, Occupational Safety & Health Administration and all federal, state, and municipal laws and regulations.
- B. Contractor shall take care not to overload the tunnel walls after removal of the top and upper portions of the tunnel. The tunnel shall be stabilized with trench boxes, temporary supports, etc., as required, to support the contractor's means and methods of construction and worker safety.

1.0.7 REFERENCE STANDARDS

- A. References are made to technical societies, organizations and groups using the following abbreviations. All work so referred shall conform to the current edition of the referenced standard.

AASHTO	American Association of State Highway Transportation Officials
ACI	American Concrete Institute
ACOE	United States Army Corps of Engineers
AGC	Associated General Contractors of America
ANSI	American National Standards Institute
AOAC	Association of Official Agricultural Chemists
ASTM	American Society for Testing and Materials
AWPA	American Wood Preservers Association
AWWA	American Water Works Association
NEMA	National Electrical Manufacturers Association
NEWWA	New England Water Works Association
OSHA	Occupational Safety and Health Administration
UL	Underwriters Laboratory

1.0.8 TRAFFIC MAINTENANCE

- A. Contractor shall maintain access to the site and through the work zones for personnel and vehicles of emergency services, utility agencies, inspection services, and others authorized to enter, move about and work on the site.
- B. When work is required on public roadways, Contractor shall furnish, install, maintain, and remove all signs, drums, barricades, steel plates, and other devices required by the federal or state government or municipality to maintain and protect pedestrians and vehicular traffic.

- C. Protective measures shall be installed at site access points to prevent mud and other debris from being deposited on the public roadways by construction traffic. The public roadways shall be swept as required to remove any deposits.

1.0.9 STATE AND LOCAL REFERENCE STANDARDS

Building Code	Per Municipal requirements
NHDES	NH Department of Environmental Services
NHDOT	NH Department of Transportation

END OF SECTION 018900

SECTION 033055
CAST-IN-PLACE CONCRETE (SITE)

PART 1 - GENERAL

1.1 DESCRIPTION

A. This Section specifies requirements for concrete cast-in-place on the site.

1.2 RELATED SECTIONS

A. Sections which directly relate to the work of this Section include:

1. Section 018900 SITE CONSTRUCTION PERFORMANCE REQUIREMENTS
2. Section 310000 - EARTHWORK.

1.3 REFERENCE STANDARDS

A. References herein are made in accordance with the following abbreviations and all work under this Section shall conform to the latest editions as applicable.

1. American Concrete Institute (ACI):
 - 301 Specifications for Structural Concrete
 - 305R Hot Weather Concreting
 - 306R Cold Weather Concreting
 - 325.9R Guide for Construction of Concrete Pavements and Concrete Bases
2. ASTM International (ASTM):
 - A82 Standard Specification for Steel Wire, Plain, for Concrete Reinforcement
 - A185 Standard Specification for Steel Welded Wire Reinforcement
 - A615 Standard Specification for Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
 - C31 Standard Practice for Making and Curing Concrete Test Specimens in the Field
 - C33 Standard Specification for Concrete Aggregates
 - C94 Standard Specification for Ready-Mixed Concrete
 - C143 Standard Test Method for Slump of Hydraulic-Cement Concrete
 - C150 Standard Specification for Portland Cement
 - C171 Standard Specification for Sheet Materials for Curing Concrete
 - C231 Standard Test Method for Air Content of Freshly Mixed Concrete by the Pressure Method
 - C260 Standard Specification for Air-Entraining Admixtures for Concrete

- C309 Standard Specification for Liquid Membrane-Forming Compounds for Curing Concrete
- C494 Standard Specification for Chemical Admixtures for Concrete
- C1116 Standard Specification for Fiber-Reinforced Concrete
- 3. Concrete Reinforcing Steel Institute (CRSI):
Manual Manual of Standard Practice.
- 4. United States Department of Justice - Americans with Disabilities Act (ADA):
ADA ADA Accessibility Guidelines for Buildings and Facilities; 28 CFR Part 36.
- 5. State Reulations regarding Accessibility.

1.4 QUALITY ASSURANCE

- A. Work and materials for construction of the cement concrete walks shall conform to ACI 316R. Other cast-in-place concrete shall conform to ACI 301.
- B. Work, materials, and color of the wheelchair ramp paving shall conform to applicable sections of Americans with Disabilities Act (ADA) and State Standards, whichever is more stringent.
- C. Dimensions, locations, and details of equipment pads, anchors, supports, and similar features shown on the Drawings are approximate. Manufacturer's approved shop Drawings of equipment to be supported, anchored, or contained thereby shall be consulted for exact location, size, and details.

1.5 SUBMITTALS

- A. Submit description of methods and sequence of placement for each type of specially-finished concrete.
- B. Submit manufacturer's product data for the following:
 - 1. Form release agent.
 - 2. Concrete coloring additive.
 - 3. Preformed joint filler.
 - 4. Concrete reinforcement specification data from manufacturer.
 - 5. Stamp and imprinting tools, manufacturer's literature.
 - 6. Manufacturer's literature for protective coating for sidewalks.

1.6 TESTING

- A. The Owner may employ an independent testing laboratory to inspect and test concrete paving and other cast-in-place concrete work.
- B. When requested, Contractor shall prepare test specimens in accordance with ASTM C31, standard cylinder size 4-inch x 8 inch.
- C. Testing of materials and installed work may occur at any time during progress of the work. Rejected materials and installed work shall be removed and replaced.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Steel Reinforcing Bars shall conform to ASTM A615, Grade 60, deformed.
- B. Steel Wire: ASTM A82, plain cold drawn steel.
- C. Welded Wire Fabric (WWF) Reinforcement: Welded wire fabric reinforcement shall conform to the applicable requirements of ASTM A185. Fabric reinforcement shall be furnished in flat sheets. Fabric reinforcement in rolls will not be permitted.
- D. Supports for Reinforcement: Bolsters, chairs, and other devices for spacing, supporting, and fastening reinforcing bars, and welded wire fabric in place shall be wire bar-type supports complying with CRSI Manual.
 1. For slabs-on-grade, use supports with sand plates or horizontal runners where base material will not support chair legs.
 2. For exposed-to-view concrete surfaces where legs of supports are in contact with forms, provide supports with legs that are protected by plastic (CRSI Class 1).

2.2 PORTLAND CEMENT CONCRETE

- A. Portland cement concrete shall conform to the following:
 1. Maximum water-cement ratio shall be 0.45 conforming to ACI 316R.
 2. Concrete shall be air-entrained type conforming to ASTM C94. Air content by volume shall be 6 percent \pm 1.5 percent, tested in accordance with ASTM C260.
 3. Slump of concrete shall not be less than 3 inches nor greater than 4 inches, determined in accordance with ASTM C143.
 4. Cement for concrete shall be a Portland cement conforming to ASTM C150, Type I or II. Only one color of cement, all of the same manufacturer, shall be used for the work.

5. Fine and coarse aggregates for concrete shall conform to ASTM C33.
6. Concrete shall contain a water reducing agent to minimize cement and water content of the concrete mix at the specified slump. Water reducing agent shall conform to ASTM C494, Type A.
7. Concrete shall contain no calcium chloride or admixtures containing calcium chloride. No admixtures other than those specified shall be used in the concrete without the specific written permission of the Engineer.

2.3 CONCRETE AGGREGATES

- A. Fine Aggregates: Fine aggregates shall conform to ASTM C33, part 6.
- B. Coarse Aggregates: Coarse aggregates shall conform to ASTM C33, Parts 9 through 11 and Tables 2 and 3, with the following Class designations:
 1. Class 1S: For footings and foundations not exposed to the weather.
 2. Class 4S: For pavements, driveways, curbs, walkways, sidewalks, and retaining walls that are exposed to the weather.
 3. Class 1N: For pavements, driveways, curbs, walkways, sidewalks, and retaining walls that are not exposed to the weather.
- C. Exposed Aggregate: Exposed aggregate for ADA curb ramps shall be selected, hard, durable, washed rounded stones free of deleterious reactivity to cement with graded sizes between 1/2 to 3/4 inch diameter nominal sieves.

2.4 COLORED CONCRETE

- A. Not used.

2.5 CURING MATERIALS FOR UNCOLORED CONCRETE

- A. Curing shall be accomplished by the following methods:
 1. Moist curing with burlap covering.
 2. Curing paper, nonstaining, fiber reinforced laminated Kraft bituminous product conforming to ASTM C171. Four mil polyethylene sheeting may be substituted for curing paper.
 3. Curing compound, a resin-base, white pigmented compound conforming to ASTM C309, Type 2.

2.6 EXPANSION JOINTS

- A. Not used.

2.7 CONTROL JOINTS

- A. Not used.

2.8 FORMS

- A. Cylindrical Forms: Sonotube Fibre Forms, wax-impregnated strippable forms manufactured by Sonoco Products Company, General Products Division, ABS or PVC plastic reusable forms, or approved equivalent.
- B. Forms for Exposed Finish: Plywood, metal, metal-framed plywood faced, or other acceptable panel materials. Plywood shall conform to U.S. Product Standard PS-1 and APA Graded B-B (Concrete Form) Class I Exterior Grade plywood or B-B or A-C Class I high density overlay concrete form plywood. Formwork materials shall produce smooth, continuous, straight and level surfaces.
- C. Forms for Unexposed Finish: Plywood, lumber, or metal, with lumber dressed on at least two edges and one side.
- D. Form Ties: Prefabricated, adjustable length galvanized steel snap-off ties, with brackets, cones, cornerlocks, and other accessories as necessary.
- E. Form Release Agent: Commercial formulation compounds that will not bond with, stain or adversely affect concrete.
- F. Imprinting Tools: Mats and tools used to stamp projecting texture and patterns onto plastic concrete surfaces and which shall be specifically designed with rigid back supports to enable a clean, sharp, stamping image. Stamps for curb ramps shall be designed to meet ADA detectable warning requirements.

2.9 FIBROUS REINFORCING

- A. Not used.

2.10 EXPOSED CONCRETE PROTECTIVE COATING

- A. Not used.

PART 3 - EXECUTION

3.1 PREPARATION OF SUBGRADE

- A. Not used

3.2 BASE COURSE

- A. Not used.

3.3 STEEL REINFORCEMENT

- A. Before being placed in position, reinforcing steel shall be thoroughly cleaned of loose mill and rust scale, dirt, ice, and other foreign material which may reduce the bond between the concrete and reinforcing. Where there is delay in placing concrete after reinforcement is in place, bars shall be re-inspected and cleaned when required.
- B. Any bar showing cracks after bending shall be discarded.
- C. Unless otherwise shown on the Drawings, reinforcing shall extend within 2 inches of formwork and expansion joints. Reinforcing shall continue through control joints. Adjacent sheets of fabric reinforcing shall lap 6 inches.
- D. After forms have been coated with form release agent, but before concrete is placed, reinforcing steel shall be securely wired in the required position and shall be maintained in that position until concrete is placed and compacted. Chair bars and supports shall be installed in a number and arrangement approved by the Engineer.

3.4 FORMS

- A. General: Design, erect, support, brace, and maintain formwork to support vertical, lateral, static, and dynamic loads that might be applied until concrete structure can support such loads. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position. Maintain formwork construction tolerances and surface irregularities complying with the following ACI 347 limits.
 - 1. Provide Class A tolerances for concrete surfaces exposed to view.
 - 2. Provide Class C tolerances for other concrete surfaces.
- B. Construct forms to provide for openings, offsets, sinkages, keyways, recesses, moldings, chamfers, blocking, screeds, bulkheads, anchorages, and inserts, and other features required for the work. Use selected materials to obtain required finishes. Solidly butt joints and provide back-up at joints to prevent cement paste from leaking.
- C. Fabricate forms for easy removal without hammering or prying against concrete surfaces. Kerf wood inserts for forming keyways, reglets, recesses, and other features for easy removal.

- D. Chamfer exposed corners and edges, using wood, metal, PVC, or rubber chamfer strips fabricated to produce uniform smooth lines and tight edge joints.
- E. Thoroughly clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, or other debris just before placing concrete. Re-tighten forms and bracing before placing concrete, as required, to prevent mortar leaks and maintain proper alignment.

3.5 INSTALLING EMBEDDED ITEMS

- A. General: Set and build into formwork the anchorage devices and other embedded items required for work that is attached to, or supported by, cast-in-place concrete. Use setting drawings, diagrams, instructions, and directions provided by suppliers of items to be attached.
- B. Forms for Slabs: Set edge forms, bulkheads, and intermediate screed strips for slabs to achieve required elevations and contours in finished surfaces. Provide and secure units to support screed strips using strike-off templates or compacting-type screeds.

3.6 PREPARING FORM SURFACES

- A. Coat contact surfaces of forms with an approved, nonresidual, low-VOC form-coating compound before placing reinforcement.

3.7 CONCRETE PLACING

- A. Equipment, methods of mixing and placing, and precautions to be observed as to weather, and condition of base shall meet the requirements of ACI 316R.
- B. The Engineer shall be notified of scheduled concrete placement sufficiently in advance of start of operation to allow preliminary inspection of the work, including subgrade, forms, and reinforcing steel.
- C. Work shall not be performed during rainy weather or when temperature is less than 40°F. (4.4°C.).
- D. Adjacent work shall be protected from stain and damage. Damaged and stained areas shall be replaced or repaired to equal their original conditions.
- E. Existing concrete, earth, and other water-permeable material against which new concrete is to be placed shall be thoroughly damp when concrete is placed. There shall be no free water on surface.
- F. Concrete which has set or partially set, before placing shall not be used. Retempering of concrete will not be permitted.
- G. Concrete shall be thoroughly vibrated, or otherwise consolidated to secure a solid and homogeneous mass, thoroughly worked around reinforcement and into corners of forms.

- H. When joining fresh concrete to concrete which has attained full set, latter shall be cleaned of foreign matter, and mortar laitance shall be removed by chipping and washing. Clean, roughened base surface shall be saturated with water, but shall have no free water on surface. A coat of 1:1 cement-sand grout, approximately 1/8 inch thick, shall be well scrubbed into the thoroughly dampened concrete base. New concrete shall be placed immediately, before grout has dried or set.

3.8 FINISHING

- A. Concrete surfaces shall be screeded and finished true to line and grade, and free of hollows and bumps. Surface shall be dense and smooth.
1. Finished concrete surface for concrete subbases shall be wood floated to a slightly rough surface. Surface shall not deviate more than 1/4 inch in 10 feet.
 2. Finished concrete surfaces shall be wood floated and steel troweled, or broom finished, to a uniform surface. Surface shall not deviate more than 1/8 inch in 10 feet.
- B. Horizontal surfaces of concrete surfaces which will be exposed shall be given a light broomed finish, with direction of grooves in concrete surface perpendicular to length of concrete band, slab, or pad. After concrete has set sufficiently to prevent coarse aggregate from being torn from surface, but before it has completely set, brooms shall be drawn across the surface to produce a pattern of small parallel grooves. Broomed surface shall be uniform, with no smooth, unduly rough or porous spots, or other irregularities. Coarse aggregate shall not be dislodged by brooming operation.
- C. Immediately following finishing operations, arises at edges and both sides of expansion joints shall be rounded to a 1/4-inch radius. Control joints to be tooled shall be scored into slab surface with scoring tool. Adjacent edges of control joint shall at same time be finished to a 1/4-inch radius.
- D. Where finishing is performed before end of curing period, concrete shall not be permitted to dry out, and shall be kept continuously moist from time of placing until end of curing period, or until curing membrane is applied.
- E. Sidewalks, walkways, accessible routes, and ramps shall be constructed and finished in accordance with the Americans with Disabilities Act (ADA) and state and local requirements. Provide protective coating in accordance with manufacturer's recommendations.
- F. Exposed Aggregate Finish: Expose coarse aggregate in pavement surfaces as follows:
1. Immediately after float finishing, spray-apply chemical surface retarder to pavement according to manufacturer's written instructions.
 2. Cover pavement surface with plastic sheeting, sealing laps with tape, and remove when ready to continue finishing operations.

3. Without dislodging aggregate, remove excess mortar by lightly brushing surface with a stiff, nylon-bristle broom.
4. Fine-spray surface with water and brush. Repeat water flushing and brushing cycle until cement film is removed from aggregate surfaces to depth required.

3.9 STAMPING

- A. Not used.

3.10 CURING

- A. Concrete shall be kept continuously damp from time of placement until end of specified curing period or cured by other methods. Water shall not be added to surface during floating and troweling operations, and not earlier than 24 hours after concrete placement. Between finishing operations, surface shall be protected from rapid drying by a covering of waterproofing paper. Surface shall be damp when the covering is placed over it, and shall be kept damp by means of a fog spray of water, applied as often as necessary to prevent drying, but not sooner than 24 hours after placing concrete. None of the water so applied shall be troweled or floated into surface.
- B. Concrete surfaces shall be cured by completely covering with curing paper or application of a curing compound.
 1. Concrete cured using waterproof paper shall be completely covered with paper with seams lapped and sealed with tape. Concrete surface shall not be allowed to become moistened between 24 and 36 hours after placing concrete. During curing period, concrete surface shall be checked frequently, and sprayed with water as often as necessary to prevent drying, but not earlier than 24 hours after placing concrete.
 2. Concrete cured with a curing compound shall have the compound applied at a rate of 200 square feet per gallon, in two applications perpendicular to each other.
 3. Curing period shall be seven (7) days minimum.
- C. Only if additional protection is absolutely required, the surface should remain uncovered after the seven (7) day period for at least four (4) days, after which time new and unwrinkled non-staining reinforced waterproof Kraft curing paper may be used.

3.11 EXPANSION JOINTS

- A. Not used.

3.12 CONSTRUCTION JOINTS

- A. Not used.

3.13 CONTROL JOINTS

- A. Control joints shall be tooled into the concrete slab, with 3-inch wide border and troweled edges, in pattern as shown on the Drawings. If no pattern is shown, then pattern shall result in square shape with a maximum area of 36 square feet. Joints shall be made after concrete is finished and when the surface is stiff enough to support the weight of workmen without damage to the slab, but before slab has achieved its final set.
- B. Scoring shall cut into slab surface at least 1 inch, but in no case not less than 25 percent of slab depth.

3.14 COLD WEATHER CONCRETING

- A. Materials for concrete shall be heated when concrete is mixed, placed, or cured when the mean daily temperature is below 40°F. or is expected to fall to below 40°F. within 72 hours. The concrete, after placing, shall be protected by covering, heat, or both.
- B. Details of handling and protecting of concrete during freezing weather shall be subject to the approval and direction of the Engineer. Procedures shall be in accordance with provisions of ACI 306R.

3.15 HOT WEATHER CONCRETING

- A. Concrete just placed shall be protected from the direct rays of the sun and the forms and reinforcement just prior to placing shall be sprinkled with cold water. Every effort shall be made to minimize delays which will result in excessive mixing of the concrete after its arrival on-site.
- B. During periods of excessively hot weather (95°F., or above), ingredients in the concrete shall be cooled with cold mixing water to maintain the temperature of the concrete at permissible levels in accordance with the provisions of ACI 305R. Any concrete with a temperature above 95°F., when ready for placement, will be rejected.
- C. Temperature records shall be maintained throughout the period of hot weather giving air temperature, general weather conditions (calm, windy, clear, cloudy, etc.) and relative humidity. Records shall include checks on temperature of concrete when delivered to Project site and after placing in forms. Data should be correlated with the progress of the work so that conditions surrounding the construction of any part of the structure can be ascertained.

3.16 PROTECTION OF CONCRETE SURFACES

- A. Concrete surfaces shall be protected from traffic or damage until surfaces have hardened sufficiently.

END OF SECTION 033055

SECTION 310000
EARTHWORK

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide facilities, labor, materials, tools, equipment, appliances, transportation, supervision, and related work necessary to complete the work specified in this section, and as shown on the Drawings.
- B. Work performed under this Section of the Specifications shall be subject to the General Conditions, Supplementary Conditions and Division 1 – General Requirements of the Contract Documents.
- C. The work of this section includes but is not necessarily limited to:
 - 1. Excavation, fill, and backfill, as indicated, or required, including compaction.
 - 2. Excavation, as required, to the lines and grades indicated on the Drawings.
 - 3. Excavation and offsite disposal of unsuitable or excess materials unless on-site locations are designated. Excavation shall include removal and satisfactory disposal of all unclassified material encountered throughout the site.
 - 4. Rough grading, including placement, moisture conditioning, and compaction of fills and backfill.
 - 5. Placement of base and subbase course materials under structures, pavements, slabs, and footings, including compaction.
 - 6. Trench excavation, bedding, and backfill for structures, foundations, and utilities, including compaction.
 - 7. The removal, hauling and stockpiling of suitable excavated materials for subsequent use in the work. Stockpiling shall include protection to maintain materials in a workable condition.
 - 8. Rehandling, hauling, and placing of stockpiled materials for use in refilling, filling, backfilling, grading, and such other operations.
 - 9. Protect and preserve all existing buildings, pavements, and utilities to remain.
 - 10. Furnishing and installing all sheeting, shoring, and bracing of structural and trench excavations and its satisfactory removal, unless otherwise directed to have it remain in place.
 - 11. Environmental controls.
 - 12. Providing products in sufficient quantities to meet the project requirements.
 - 13. Providing adequate pumping and drainage facilities to keep the work area sufficiently dry.
 - 14. Obtain all required permits, licenses, and approvals of appropriate municipal and utility authorities, prior to commencing the work of this Section, and pay costs incurred therefrom.

- D. Provide facilities, labor, materials, tools, equipment, appliances, and related work necessary to provide and maintain erosion control during construction operations. All erosion control measures shall be installed prior to earthwork operations and shall be maintained according to Drawings and other sections of the specifications.
- E. Refer to Section 312500 - EROSION AND SEDIMENTATION CONTROLS.
- F. Contractor shall be responsible for notifying all affected utility companies and "Dig Safe" (1-888-DIG-SAFE) before starting work.

1.2 RELATED SECTIONS

- A. Carefully examine all the Contract Documents for requirements which affect the work in this Section. Other Specification Sections which directly relate to the work of this Section include, but are not limited to, the following:
 - 1. Section 018900 - SITE CONSTRUCTION PERFORMANCE REQUIREMENTS.
 - 2. Section 311000 - SITE CLEARING.
 - 3. Section 312500 - EROSION AND SEDIMENTATION CONTROLS.
 - 4. Section 321100 - BASE COURSES (PAVEMENT)
 - 5. Section 321215 - ASPHALT PAVING.
 - 6. Section 329220 - SEEDING AND SODDING.

1.3 STATE AND LOCAL STANDARDS

NHDOT 2016 New Hampshire Department of Transportation Standard Specifications for Road and Bridge Construction

1.4 LAWS AND REGULATIONS

- A. Work shall be accomplished in accordance with regulations of local, county, state and federal agencies or utility company standards as they apply.

1.5 QUALITY ASSURANCE

- A. The Owner may retain and pay for the services of an independent testing and inspection firm and/or a Geotechnical Consultant to perform on-site observation and testing during the various phases of the construction operations. The scope of services will be determined by the Owner and the independent testing and inspection firm and/or the Geotechnical Consultant and will be provided to the Contractor. The Owner reserves the right to modify or waive the services of the independent testing and inspection firm and/or the Geotechnical Consultant. The services of an independent testing firm and/or Geotechnical Consultant may include, but not necessarily be limited to, the following:
 - 1. Observation during excavation and dewatering of building areas and controlled fill areas.

2. Laboratory testing and analysis of fill materials as specified herein and proposed by the Contractor for incorporation into the Work.
 3. Observation of construction and performance of water content, gradation and compaction tests at a frequency and locations that the independent testing and inspection firm and/or the Geotechnical Consultant may require. The results of these tests will be submitted to the Owner, Engineer, and Contractor on a timely basis so that action can be taken to remedy indicated deficiencies. During the course of construction, the independent testing and inspection firm and/or the Geotechnical Consultant will advise the Owner in writing, if at any time in their opinion, the Work hereunder is of unacceptable quality. Failure of independent testing and inspection firm and/or the Geotechnical Consultant to give notice, shall not excuse the Contractor from latent defects discovered in his work.
- B. Contractor shall make provisions for allowing observations and testing of Contractor's work by the independent testing and inspection firm and/or the Geotechnical Consultant.
 - C. The presence of the independent testing and inspection firm and/or the Geotechnical Consultant does not include supervision or direction of the actual work of the Contractor, and his employees or agents. Neither the presence of the independent testing and inspection firm and /or the Geotechnical Consultant, nor any observations and testing performed by them, nor failure to give notice of defects shall excuse the Contractor from defects discovered in his work.
 - D. Costs related to retesting due to unacceptable qualities of work and failures discovered by testing shall be paid for by the Contractor at no additional expense to Owner, and the costs thereof will be deducted by the Owner from the Contract Sum.
 - E. Whenever floodplain compensation areas are designated on the Drawings, grading elevations are to be considered critical to the floodplain volumetric calculations and shall be constructed by the Contractor in strict conformance with the indicated grades.

1.6 SUBMITTALS

- A. Submit, in an airtight container for the testing laboratory, a 50-pound sample of each type of off-site fill material that is to be used at the site. Submit samples a minimum of one week prior to use of proposed material at the site. Submit samples to the testing laboratory and/or the Engineer. Use of these proposed materials by the Contractor prior to testing and approval shall be at the Contractor's risk.
- B. The Engineer will be responsible for the approval or rejection of the suitability of all materials.
- C. Submit the name of each material supplier and specific type and source of each material. Any change in source throughout the project requires approval of the Owner or Engineer.
- D. For use of geotextile fabrics or geogrids, submit manufacturer's product data including material's properties for approval by the Engineer.

1.7 COORDINATION

- A. Prior to start of earthwork the Contractor shall arrange an on-site meeting with the Engineer, the Owner's Representative, the independent testing firm, and/or the Geotechnical Consultant for the purpose of establishing the Contractor's schedule of operations and scheduling observation and testing procedures and requirements.
- B. As construction proceeds, the Contractor shall be responsible for notifying the Owner and Engineer prior to the start of earthwork operations requiring observation and/or testing.

1.8 SUBSURFACE SOIL DATA

- A. Not used.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Subgrade is the material in excavation (cuts) and fills located below subbase, base course layer for slabs, sidewalks, pavement, and other improvements.
- B. Granular Backfill. Granular Backfill shall meet the requirements of NHDOT Item 209.1, Granular Backfill.
- C. Crushed Gravel (NHDOT 304.3) shall consist of inert material that is hard, durable stone and coarse sand, free from loam, clay, surface coatings and deleterious materials. At least 50 percent of the material retained on the 1 in. (25.0 mm) sieve shall have a fractured face. Crushed gravel shall conform to the following gradation:

Sieve (ASTM D422)	Percent Passing by Weight
3-in	100
2-in	95 - 100
1-in	55 - 85
No. 4	27 - 52
No. 200 *	0 - 12

* In sand portion (fraction passing the No. 4 sieve)

- D. 3/4-Inch Stone. 3/4-Inch Stone shall meet the requirements of NHDOT Item 508, Structural Fill (Crushed Gravel), except the grading requirements shall be as shown on the Drawings.
- E. Separation Geotextile. Separation Geotextile shall meet the requirements of NHDOT Item 593.221, Geotextile; Separation Class 2, Non-Woven. Separation Geotextile shall be a product selected from the NHDOT Qualified Products List.
- F. Topsoil/Loam

- 1. Topsoil (stripped from site) or Loam (supplied from off-site) shall be a sandy loam or loam soil classification as defined by the USDA Soil Conservation Service, Soil Classification System consisting of a fertile, friable, natural topsoil/loam typical of locality, without admixture of subsoil, refuse or other foreign materials, shall be obtained from a well-drained arable site, and shall meet ASTM D5268. Material shall be such a mixture of sand, silt and clay particles as to exhibit sandy and clayey properties in about equal proportions. Material shall be free of stumps, roots, heavy or stiff clay, stones larger than 3/4-inch in diameter, lumps, coarse sand, noxious weeds, sticks, brush or other litter, and shall have the following mechanical analysis:

Textural Class	Percent of Total Weight	Average Percent
Sand 0.05 - 2.0 mm dia. range	45 to 75	60
Silt 0.002 - 0.05mm dia. range	15 to 35	25
Clay less than 0.002 mm dia. range	5 to 25	15

- a. 95 percent of Topsoil shall pass a 2.0 mm sieve.
- b. Topsoil/Loam shall have a pH value in the range of 6.0 to 7.0. If Topsoil/Loam material does not fall within the required pH range, limestone or aluminum sulfate shall be added to bring the pH within the specified limit.
- 2. Prior to stripping, the topsoil shall demonstrate, by the occurrence upon it of healthy crops, grass or other vegetative growth, that it is reasonably well drained and that it does not contain toxic amounts of either acid or alkaline elements.
- 3. Loam and topsoil shall contain not less than 4 percent nor more than 20 percent organic matter as determined by the loss on ignition of oven-dried samples. Test sample shall be oven-dried to a constant weight at a temperature of 230°F. ±9°.
- 4. In other portions of these specifications, the words 'loam' and 'topsoil' are used interchangeably.

2.2 USE OF MATERIALS

- A. Use of materials shall be as described as shown on the Drawings.

PART 3 - EXECUTION

3.1 CLEARING AND GRUBBING

- A. Cut and remove trees, remove stumps and brush, as required. Legally dispose of off-site.
- B. Strip all topsoil, subsoil and other unsuitable materials to its full depth within the Contract limits.
- C. Under pavement areas, unsuitable materials shall be removed and disposed of by the Contractor in an approved location, or if no approved location exists on site to an approved off-site location and replaced with structural fill. Treatment of existing fill and removal of topsoil, subsoil, and stumps are defined in Section 3.3. These materials shall be processed to remove all roots, stones larger than 3/4 inch in diameter, and other deleterious materials. Stockpile as approved by the Engineer. Protect the topsoil from contamination by other materials.
- D. Other Specification Sections shall apply to clearing and grubbing under demolition and shall include air quality, erosion control, and hazardous waste.
- E. Remove all topsoil, subsoil, vegetative matter, and non-soil materials and, after screening out the roots, rocks greater than 3/4 inch in size, and deleterious debris, separately stockpile the topsoil and subsoil materials.

3.2 DEWATERING

- A. Not used.

3.3 EXCAVATIONS

A. General Definitions

- 1. Excavation includes the satisfactory removal and disposal of all materials (except contaminated materials defined below) encountered regardless of the nature of the materials and shall be understood to include, but not be limited to, blast rock, bedrock, earth, hardpan, fill, foundations, pavements, curbs, piping, railroad track and ties, cobblestones, footings, bricks, concrete, abandoned drainage and utility structures, and debris. Drilling, blasting, excavation, and disposal of rock shall be considered unclassified excavation and shall be included as a part of the Contract Price, with no separate payment items for its excavation and handling.
- 2. Contaminated Materials
 - a. The Contractor shall be familiar with the New Hampshire Department of Environmental Services Hazardous Waste Regulations (NHDES Regulations) when conducting earthwork operations.
 - b. In general, a hazardous waste (contaminated with oil or hazardous materials) is a waste or combination of wastes which, because of its quantity, concentration,

physical, chemical or infectious characteristics, may cause, or significantly contribute to, an increase in mortality or an increase in serious irreversible or incapacitating reversible illness or pose a substantial present or potential hazard to human health, safety, or welfare, or to the environment when improperly stored, treated, transported, or disposed of, or otherwise managed.

- c. The Contractor shall immediately halt soil movement activities and notify the Owner if visual, olfactory, or other evidence suggests that soils may be contaminated with oil or hazardous materials. Contractor shall provide reasonable assistance to Owner and to Owner's Representative for access to potential contamination areas for proper assessment of hazardous conditions.
- d. The Owner shall contact an environmental professional (such as a Licensed Site Professional) to test any earth materials suspected of containing hazardous waste. The results shall be evaluated by the environmental professional and compared with reporting thresholds found in the NHDES Regulations. The Owner shall inform the Contractor of the laboratory test results as soon as possible and discuss the possible soil management, disposal, and recycling options available. Contaminated soils shall be managed and handled in compliance with the referenced state/federal regulations, guidelines, and policies. Time and expenses associated with contaminated soils shall be negotiated between the Contractor and the Owner prior to the start of the soil management, soil disposal, and recycling work. Owner reserves the right to negotiate and contract with other entities for remedial work and, in that event, this Contractor shall make reasonable accommodations for other entities to perform this work.
- e. Asbestos is present on this site and there is a possibility of the presence of oil and other hazardous wastes on this site. Appropriate testing, as recommended by an environmental professional shall be accomplished to assess the presences of asbestos and potential presence of oil or hazardous material. Earth material shall not be removed from the site unless on-site reuse is not possible.
- f. Proper documentation of legal disposal of hazardous materials handled by this Contractor shall be provided by the Contractor to the Owner, Engineer, and review authorities.

B. Site General Requirements

1. Control the grading so that ground is pitched to prevent water from running to excavated areas, damaging other structures, or adjacent properties.
2. Where soil has been softened or eroded by flooding, equipment, traffic, or placement during unfavorable weather, or such other conditions, it shall be removed and replaced by the Contractor with suitable material, and at no cost to the Owner.
3. Exercise care to preserve the material below and beyond the lines of excavation. Where excavation is carried out below indicated grade or beyond the lines of excavation, Contractor shall backfill and compact the over excavation with structural fill to the indicated grade, at no additional cost to the Owner and at the direction of the Engineer.
4. Provide sheeting, shoring and bracing to complete and protect all excavated areas, as required for safety and compliance with OSHA. Costs for sheeting, shoring, and bracing

shall be included as a part of the Contract Price for completing the work and Owner shall make no separate payment for this work.

5. Excavated materials unsuitable for reuse, surplus excavated rock, and surplus excavated soil not used to fulfill requirements of the Contract, shall become the property of the Contractor and shall be removed from the site in accordance with the regulations and requirements of all municipalities or agencies having jurisdiction over the disposal sites and the route between the project and the disposal sites.
6. Limits of excavation are such that all unsuitable material shall be removed to firm natural ground in the manner specified below. In building areas, unsuitable materials shall be removed to a distance of five feet (5') beyond the building lines or within the area defined by a one horizontal to one vertical (1h:1v) line sloping down from outside bottom edge of exterior footings to firm natural ground, whichever is greater. Limits of unsuitable material excavation also apply to areas below exterior column footings. All abandoned pipes within building areas shall be removed and the excavations shall be properly backfilled.
7. Unsuitable materials which are classified as organics such as peat, trash, fill, stumps, debris, material determined to be hazardous, and topsoil and subsoil when determined by Engineer to be unacceptable for incorporation into the work.
8. Under pavement areas, existing fill shall be densified in place and shall not be excavated. Topsoil need not be excavated from pavement areas if located more than three feet (3') below finish pavement grades. Trees shall be cut flush with ground and stumps shall be left in place if the existing ground surface is located more than six feet (6') below finish grades. Abandoned pipes, that are buried more than four feet (4') from finish grade to the top of the pipe and that do not interfere with utilities to remain or to be installed, shall be capped and/or grouted at both ends and left in place. Abandoned pipes less than four feet (4') from finish grade shall be removed and the trench shall be appropriately backfilled with structural fill.
9. All suitable material, as determined by the Engineer, may be reused on the site provided it meets the gradation requirements for the given materials in the information of fill sections, embankments, subgrades, backfills, etc.
10. Do not over excavate below proposed design grades for the purpose of obtaining borrow for use off-site.

C. Proof Rolling

1. Prior to placing compacted fills, the Contractor shall proof roll the natural grades to remain. Where materials of low density are indicated by rutting or weaving under the compactor, the Contractor may be required to make up to three (3) additional complete coverages of the area with the compactor as determined by the Engineer. The cost of all proof rolling shall be included in the Contract Price. If materials of low density are encountered that cannot be compacted to the extent necessary to support the proposed embankment fills as determined by the Engineer, the Contractor shall remove those materials and replace them with compacted fill.
2. Alternately, an initial layer of fill may be allowed to form a working platform. The need, manner of construction, and thickness of such a layer shall be subject to approval of the

Engineer and the layer will be permitted only where the lack of support is, as determined by the Engineer, not due to deficient ditching, grading or drainage practices, or where the embankment could be constructed in the approved manner by the use of different equipment or procedures. Thickness of up to eighteen inches (18") may be permitted for such a layer.

3.4 TRENCH EXCAVATION

- A. Excavate as necessary for all drainage pipes, utilities, and related structures and appurtenances, and for any other trenching necessary to complete the work.
- B. Definitions:
 - 1. Trench shall be defined as an excavation of any length where the width is less than twice the depth and where the shortest distance between payment lines does not exceed ten feet (10'). All other excavations shall be defined as open excavations.
 - 2. The words "invert" or "invert elevation" as used herein shall be defined as the elevation at the inside bottom surface of the pipe or channel.
 - 3. The words "bottom of the pipe" as used herein shall be defined as the base of the pipe at its outer surface.
- C. In general, machine excavation of trenches will be permitted with the exception of preparation of pipe beds which will be hand work. Excavate by hand or machine methods to at least six inches (6") below the bottom of pipe or as shown on the Drawings. Excavation to final grade shall be made in such a manner as to maintain the undisturbed bearing character of the soils exposed at the excavation level.
- D. Utilities or piping shall not be laid directly on boulders, cobbles, or other hard material. This material shall be removed to a minimum of six inches (6") below the bottom of pipe at all points and backfilled or compacted as specified.
- E. Remove unsuitable material encountered at subgrade elevations, backfill with material specified herein and as otherwise indicated on the Drawings, specified, or directed. Compact as specified with approved compactors.
- F. In general, the width of trenches shall be kept to a minimum and in the case of piping shall not exceed the sum of the pipe's outside diameter plus 2'-0" to at least twelve inches (12") above the pipe.

3.5 ROCK EXCAVATION

- A. Not used.

3.6 PREPARATION OF EXCAVATION BOTTOMS

A. Existing Tunnel Bottom

1. All pipes, conduits, utilities, wires, hangers, loose plates, ladders, trash, and other debris shall be removed in accordance with the Contract Documents prior to backfilling.

B. Building and Pavement Areas

1. Loose rock is covered with 6 inches (6") of crushed stone or choke stone; and
2. Prior to placing crushed or choked stone, the area is rolled with a heavy vibratory roller or fully loaded ten wheel dump truck.
3. Proof-roll subgrade with a vibratory roller or a fully loaded ten-wheeled dump truck. Soft or hard areas and other objectionable material (stumps, wood, organics) shall be excavated and backfilled with compacted structural fill.
4. Prior to the placement of blast rock fill over a bedrock subgrade, voids in the rock surface shall be choked off with appropriately graded choke stone or crushed stone to prevent migration of fines into fractures, and as approved by the Owner's Representative.

C. Subgrades under Proposed Landscape Areas

1. Depth to rock under planting areas shall be a minimum of 48 inches (48") below subgrade elevations. Backfill up to subgrade shall be done with topsoil/loam materials.
2. In lawn areas, scarify subsoil a minimum depth of six inches (6"). Subsoil shall also be cleared of debris and stones larger than four inches (4") prior to topsoil spreading.
3. In planting areas, scarify subsoil a minimum depth of six inches (6") below the required root ball excavation prior to placement of plant backfill mixture.

D. Trenches

1. Compaction equipment used in open areas where space permits shall consist of vibratory rollers, fully loaded ten-wheel dump trucks, pneumatic compactors, or other similar equipment.
2. Compaction equipment for fill against foundation walls and in other confined areas shall be accomplished by means of drum-type, power-driven, hand-guided vibratory compactors operating at 2,000 cycles per minute, or by hand-guided vibratory plate tampers.

3.7 BACKFILLING AND PLACEMENT OF FILL MATERIALS

- A. Granular Backfill. Granular Backfill shall be placed and compacted in accordance with the requirements of NHDOT Item 209.1, Granular Backfill.
- B. Crushed Gravel. Crushed Gravel shall be placed and compacted in accordance with the requirements of NHDOT Item 304.3, Crushed Gravel.
- C. 3/4-Inch Stone. 3/4-Inch Stone shall be placed and compacted as shown in the Drawings.
- D. Equipment
 - 1. Compaction equipment used in open areas where space permits shall consist of vibratory rollers, fully loaded ten-wheel dump trucks, pneumatic compactors, or other similar equipment.
 - 2. Compaction equipment for fill against foundation walls and in other confined areas shall be accomplished by means of drum-type, power-driven, hand-guided vibratory compactors operating at 2,000 cycles per minute, or by hand-guided vibratory plate tampers.
- E. Fills under Parking Areas
 - 1. Paved area subgrades shall be excavated to a minimum of 12 inches (12") beneath required subgrade elevation or existing grade, whichever is lower.
 - 2. Proof-roll subgrade with a vibratory roller or a fully loaded ten-wheeled dump truck. Soft or hard areas and other objectionable material (stumps, wood, organics) shall be excavated and backfilled with compacted common fill.
 - 3. A minimum of 12 inches (12") of gravel base course shall be provided between subgrade and the bottom of the bituminous surface.

3.8 BACKFILLING AGAINST STRUCTURES

- A. Symmetrical backfill loading shall be maintained. Special care shall be taken to prevent any wedging action or eccentric loading upon or against the structures.
- B. During backfilling operations, care shall be exercised that the equipment used will not overload the structures in passing over and compacting these fills. Except as otherwise specified or directed, backfill shall be placed in layers not more than 12 inches (12") in loose depth and each layer of backfill shall be compacted thoroughly and evenly using approved types of mechanical equipment. Each pass of the equipment shall cover the entire area of each layer of backfill.
- C. In compacting and other operations, the Contractor shall conduct his operations in a manner to prevent damage to structures due to passage of heavy equipment over and adjacent to structures. Repair damage made by the Contractor, at no additional cost to the Owner.

- D. After backfilling the Contractor shall maintain the surfaces of backfill areas in good condition so as to present a smooth surface at all times level with adjacent surfaces. The Contractor shall repair any subsequent settling over backfilled areas immediately, in a manner satisfactory to the Engineer, and such maintenance shall be provided by the Contractor for the life of this Contract, at no additional cost to the Owner.
- E. The finished subgrade of the filled excavations upon which pavements are to be constructed shall not be disturbed by traffic of other operations and shall be maintained in a satisfactory condition until the finished courses are placed. The storage or stockpiling of materials on finished subgrade will not be permitted.
- F. Uniformly smooth grade all areas to be graded, as indicated including excavated sections and all areas disturbed as a result of the Contractor's operations. The finished surfaces shall be reasonably smooth, compacted and free from surface irregularities.

3.9 SHEETING AND BRACING

A. General

1. Whenever sheeting and bracing will be required, it shall be furnished and installed by the Contractor in accordance with the recommendations of the structural engineer and/or geotechnical engineer engaged by the Contractor.
2. The Contractor shall engage licensed professional structural engineer and/or geotechnical engineer. These engineers shall be licensed in the state where the work is occurring and they shall prepare designs for the sheeting and bracing.
3. Submit the sheeting and bracing designs to the Owner and the Engineer for the project record. The sheeting and bracing drawings and calculations shall bear the professional seals and signatures of the Contractor's engineers. These drawings and calculations shall be submitted prior to the start of work.
4. The Contractor shall furnish and install the required sheeting and bracing in accord with the submitted designs. The Contractor shall include the costs for this work in his bid price for the project. No additional or separate compensation will be allowed.

END OF SECTION 310000

SECTION 311000
SITE CLEARING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section specifies requirements for site clearing including demolition of site structures.
- B. The work includes:
1. Protection of existing vegetation to remain.
 2. Clearing and grubbing.
 3. Selective clearing and thinning.
 4. Site demolition of structures, retaining walls, signage, light standards, foundations and appurtenances.
 5. Removal and abandonment of utilities.
 6. Filling or removal of underground tanks and piping.
 7. Disposal of material from clearing, grubbing, thinning and demolition in approved off-site disposal areas.
 8. Filling of voids and excavations resulting from the work.

1.2 RELATED SECTIONS

- A. Other Specification Sections which directly relate to the work of this Section include:
1. Section 312500 - EROSION AND SEDIMENTATION CONTROLS.
 2. Section 310000 - EARTHWORK.

1.3 SITE CONDITIONS

- A. Site conditions existing during the bidding period will be maintained by the Owner as far as practical.
- B. Actual site condition variations that differ from those of the bidding period and which affect site clearing operations shall be brought to the attention of the Owner prior to the commencement of any site work.

1.4 SUBMITTALS

- A. Contractor shall submit the following information to the Engineer for review before commencing work:

1. All permits and notices authorizing site clearing and demolition.
2. Certificates of utility service severances.
3. Permits for transport and disposal of debris.
4. Demolition procedures and operational sequence.
5. Calculations.

PART 2 - PRODUCTS

2.1 TREE PROTECTION FENCING

Not used.

PART 3 - NOT USED. EXECUTION

3.1 TREE PROTECTION

Not used.

3.2 UTILITIES

- A. Notify all corporations, companies, individuals, or local authorities owning or having jurisdiction over utilities running to, through, or across areas to be affected by site clearing operations.
- B. Locate and identify existing utilities that are to remain and protect them from damage.
- C. For utilities to be disconnected, have utility services disconnected in accordance with the requirements of the utility owner.

3.3 CLEARING AND GRUBBING

- A. Clearing shall include cutting, removal, and off-site disposal of trees, bushes, shrubs, stumps, fallen timber, brush, refuse, trash, fencing and other incidental materials not required for reuse on the site.
- B. Contractor shall grub the area within the clearing limits to completely remove stumps and root systems, except for those to remain or those to be transplanted.
- C. Depressions, excavations, and voids resulting from the removal of stumps or roots shall be filled with suitable material and compacted as specified under Section 313000 – EARTHWORK.

3.4 SELECTIVE CLEARING AND THINNING

- A. Selective clearing and thinning shall be completed as directed by the Engineer. Approximate limits of selective clearing and thinning are shown on the Drawings.
- B. The work shall include the removal of dead and diseased tree limbs and plants, and pruning and removal of live vegetation that interferes with the growth of other trees and plants. Areas of dense growth shall be thinned to provide room for healthy growth.

3.5 DEMOLITION REQUIREMENTS

- A. Conduct demolition operations in a manner that will prevent damage to adjacent structures, utilities, pavements, and other facilities to remain.
- B. Cease operations immediately if any damage, settlement, or other adverse effect on adjacent structures occurs. However, if an obvious unsafe condition is created that would potentially cause injury to persons or undue harm to properties, the Contractor shall take whatever measures are warranted to prevent such injury or harm. Immediately notify the Owner, Engineer, and regulatory authorities. Do not resume operations until conditions are corrected, damage repaired, and approval has been received from the appropriate authorities and the Owner's Representative.
- C. Obtain written permission from adjacent property owners when demolition equipment will traverse, infringe upon, or affect access to their property. Copies of the permission documents shall be submitted to the Engineer.
- D. Provide hoses and water connections. Spray water on demolition debris to minimize dust.
- E. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations. Return adjacent areas to condition which existed prior to start of work.
- F. All hazardous waste removal shall be performed in accordance with all applicable federal, state, and local regulations, ordinances and statutes.
- G. Comply with federal, state, and local regulations pertaining to the crushing, processing, and reuse of Asphalt Pavement, Brick and Concrete Rubble.

3.6 DEMOLITION

- A. Demolish buildings completely and remove from site, or remove intact, in accordance with the approved permits, procedures, and operational sequence.
- B. Locate demolition equipment and remove materials in a manner that prevents excessive loading to supporting walls, floors, or framing.
- C. Remove all debris and other materials from basement areas.

- D. The Contractor may break up and leave in place concrete floor slabs that are 4 or more feet below finished grade. Remove all concrete foundations and floors within 4 feet of finished grade.

3.7 FILLING OF VOIDS

- A. Areas to be filled shall be free of unsuitable material prior to fill placement.
- B. Place and compact fill materials in conformance with the requirements of Section 310000 – EARTHWORK.
- C. Grade surface of filled areas to match adjacent grades and slope to provide surface drainage.

3.8 REMOVAL AND ABANDONMENT OF UTILITIES

- A. All existing abandoned structures, utilities, and appurtenances of any kind shall be completely removed within the limits of tunnel abandonment and filling.
- B. All abandoned utilities outside the limits of abandonment and filling shall be sealed with concrete or brick masonry at the limit of abandonment and filling.
- C. Contractor shall remove frames, covers, and grates from manholes, catch basins and gate valves and satisfactorily store, and protect them until they are required for reuse in the work. Existing frames, covers, and grates determined by the Engineer to be unsuitable for reuse shall be removed from the site.

3.9 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove from site all materials resulting from site clearing and demolition operations.
- B. Contractor shall dispose of all materials in accordance with applicable federal, state, and local regulations, ordinances, and statutes.
- C. No burning of any material will be allowed.

END OF SECTION 311000

SECTION 312500
EROSION AND SEDIMENTATION CONTROLS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section specifies requirements for temporary and permanent erosion and sedimentation control provisions as they relate to the construction process.
- B. The work includes:
1. Providing and maintaining all temporary erosion and sedimentation control measures shown on the Drawings and required by the Engineer during the life of the Contract to control soil erosion and water pollution.
 2. The installation and maintenance of additional silt fence, berms, ditches, sedimentation basins, construction exits, fiber mats, catch basin filters, straw, netting, gravel, trenches, mulches, grasses, slope drains, and other approved erosion control devices or methods, needed to protect any areas on or off site in accordance with the Storm Water Pollution Prevention Plan (SWPPP) to be developed by the Contractor which is required by the EPA or its' locally designated agency.

1.2 RELATED SECTIONS

- A. Sections which directly relate to the work of this Section include:
1. Section 311000 – SITE CLEARING.
 2. Section 310000 – EARTHWORK (SITE).
 3. Section 329220 – SEEDING AND SODDING.

1.3 DEFINITION AND COORDINATION OF EROSION AND SEDIMENTATION CONTROL PROVISIONS

- A. Permanent erosion and sedimentation control measures are defined as those elements that are to be incorporated into the final project product, including but not necessarily limited to such items as: finish paving and landscape, detention basin forebays, sedimentation control structures (Voctech, Stormceptor, catch basins, etc.), swales and ditches, berms, and other such items.
- B. Temporary erosion and sedimentation control measures are defined as those elements that are required by permit approvals and necessary to be installed by the Contractor to meet federal, state and local regulations for the construction program, including, but not necessarily limited to, such items as: silt fences, berms, portable sedimentation basins, hay bales, check dams, and other such items, all of which shall be removed by the Contractor after

installation of permanent erosion and sedimentation control measures, stabilization of the site, and prior to final completion of the project.

- C. The temporary control provisions shall be coordinated with the permanent erosion and sedimentation control features to the extent practical to ensure economical, effective, and continuous erosion and sedimentation controls throughout the construction and post-construction periods.

1.4 LAWS AND REGULATIONS

- A. Contractor shall perform work in compliance with the EPA NPDES Storm Water Regulation.

1.5 PRIOR TO CONSTRUCTION

- A. Prior to the start of the construction, the Contractor shall submit to the Engineer the following: schedules for the construction of required stormwater detention basins, temporary and permanent erosion and sediment control work, clearing and grubbing, grading, structures at watercourses, construction, and paving. No work shall be started until control schedules and methods of operations have been submitted to the Engineer.
- B. Proof of submittal and receipt of an acknowledgement of the Notice of Intent (NOI) for an NPDES General Permit for Construction Activities under EPA Regulations 40 CFR Parts 9, 122, 123, and 124 as further outlined under this Section, Section 312500 – EROSION AND SEDIMENTATION CONTROLS.

1.6 CONSTRUCTION OPERATIONS

- A. When in the opinion of the Engineer it becomes necessary, the Engineer will inform the Contractor of construction procedures and operations that jeopardize erosion and sedimentation control provisions. If these construction procedures and operations are not corrected promptly, the Owner may suspend the performance of any or all construction until corrections have been made, and such suspension shall not be the basis of any claim by the Contractor for additional compensation from the Owner nor for an extension of time to complete the Work.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Temporary erosion control seed for quick growing grasses such as wheat, rye or oats shall be planted only when permanent grasses (See Section 329220 - SEEDING AND SODDING) cannot be planted due to the growing season. All permanent grass areas planted with temporary erosion control seed shall be replaced with permanent seed. Apply seed mixture at a rate of 100 pounds per acre.

Seed	Percent by Weight	Percent Germination Minimum
Winter Rye	80 Minimum	85
Red Fescue(Creeping)	4 Minimum	80
Perennial Rye Grass	3 Minimum	90
Red Clover	3 Minimum	90
Other Crop Grass	0.5 Maximum	
Noxious Weed Seed	0.5 Maximum	
Inert Matter	1.0 Maximum	

- B. Erosion Control Blanket/Fabric Netting - See Section 329220 - SEEDING AND SODDING.
1. Curlex blankets, as manufactured by American Excelsior Company.
 2. Erosion Control Blankets for embankments equal to or steeper than 2h to 1v shall be SC150BN as manufactured by North American Green.
 3. Erosion Control Blankets for drainage swales where stone is not used shall be C125BN as manufactured by North American Green.
- C. Hay bale sediment traps consisting of hay bales banded with wire or nylon tape (minimum two bands for bale) approximately two-feet, six-inches in length.
1. Stakes for hay bales shall be 1-1/2 inch by 1-1/2 inch by 4 feet long, or approved equal.
- D. Silt fence fabric shall be 100X, as manufactured by Mirafi.
- E. Filter fabric at construction entrance shall be 600X, as manufactured by Mirafi.
- F. Silt Sacks and Sediment Control Devices
1. Silt sacks shall be a woven polypropylene geotextile fabric with strength per ASTM . D4884 manufactured to fit the opening of the catch basin. Silt sacks shall be Siltsack ® as manufactured by ACF Environmental, Inc., or approved equal.
 2. Silt sacks shall be manufactured with a high flow bypass weir for large inflow events. Field modification, including cutting or puncturing of the fabric, shall not be allowed.
 3. Install at locations indicated on the Drawings.
- G. Compost-Filled Siltsacks
1. Siltsacks shall consist of 12-inch diameter multi-filament polypropylene mesh netting filled with compost filter media.
 2. Siltsacks shall be Siltsack®, as manufactured by Filtrexx, or approved equal.

PART 3 - EXECUTION

3.1 EROSION AND SEDIMENTATION CONTROL - HAY BALES

- A. Hay bales shall be installed at the locations, shown on the Drawings and in general as follows:
1. Toe of slope of embankment construction to filter all runoff flowing to off-site discharges.
 2. Toe of temporary earthwork stockpile slopes.
 3. Across construction ditches prior to entry into drainage system or waterway, and at 50 foot intervals along the remainder of the ditch.
 4. Surrounding completed drainage inlets.
 5. Other locations shown on the Contract Drawings and required by laws, regulations, and permits.
- B. Hay bales shall be installed in line with each bale installed tight against the previous bale to form a continuous barrier. Secure bales in place with two (2) stakes per bale. The bales shall be set in a trench approximately 4 inches into the ground. Soil shall be placed on the upside slope of the bales. Deteriorated, destroyed, or rotted bales shall be replaced immediately. Sediment shall be removed and disposed of periodically from behind the hay bales. The accumulated sediment shall not be allowed to rise above the mid-height of the bale. All sediment, hay bales, and appurtenances shall be removed and disposed of at the completion of the Contract.

3.2 TEMPORARY EROSION CONTROL MATS

- A. Erosion control mats shall be installed in accordance with the manufacturer's recommendations.
- B. Areas to receive mats shall be smooth graded and compacted. Remove all rocks, dirt clods, vegetation, and other obstructions that may cause damage to the mats.
- C. Unroll mats parallel to the direction of water flow and lay flat against the ground. Overlap roll ends a minimum of 1 foot with upslope mat on the top to prevent uplift of mat end by water flow. Overlay adjacent edges of mat by six (6) inches. Extend mat a minimum of 2 feet above the crest of steep slopes and anchor by excavating a 6-inch-deep trench, and secure end of mat in trench using staples or pins furnished by manufacturer of mat. After securing mat end in place, backfill and compact trench.

3.3 SILT FENCE

- A. Silt fence shall be installed at locations as shown on the Drawings.

- B. Supporting posts shall be spaced 4 feet on center, and driven at least 1 foot into the ground. Posts shall be 1-1/2-inch square or heavier wood posts or standard steel posts.
- C. Fabric shall be anchored in a 4-inch-deep trench dug on the upslope side of the posts. The trench shall be at least 4 inches wide. The fabric shall be laid in the trench, backfilled, and compacted.
- D. Fabric rolls shall be spliced at posts. The fabric shall be overlapped 6 inches, folded over, and then securely fastened to posts.
- E. Silt fences shall be inspected immediately after each storm event and at least daily during prolonged rainfall.

3.4 CONSTRUCTION REQUIREMENTS - TEMPORARY EROSION AND SEDIMENTATION CONTROL

- A. The Contractor shall construct all permanent erosion and sedimentation control features at the earliest practical time as outlined in the accepted schedule. Temporary erosion and sedimentation control measures shall be used to correct conditions that develop during construction which were unforeseen, but are needed prior to installation of permanent erosion and sedimentation control features, or that are needed temporarily to control erosion or sedimentation which develops during construction operations.
- B. Where erosion is likely to be a problem, clearing and grubbing operations shall be scheduled and performed so that grading operations and permanent erosion and sedimentation control features can follow immediately thereafter, if conditions permit; otherwise, temporary erosion and sedimentation control measures will be required between successive construction stages.
- C. Contractor shall be responsible for controlling erosion within the project area and retaining sediment on-site away from sensitive environmental resources. Any fines, construction delays, remedial actions, or incarceration resulting from the Contractor's failure to comply with these provisions shall be the responsibility of the Contractor and not the Owner.
- D. Failure by the Contractor to control erosion, pollution, and siltation shall be cause for the Owner to employ outside assistance to provide the necessary corrective measures. The cost of such assistance, including engineering costs, will be charged to the Contractor and appropriate deductions made from the Contractor's monthly progress payment.
- E. The Contractor shall remove and properly dispose of sediment from control facilities as required by the Engineer. The Contractor shall modify and improve erosion and sedimentation control facilities and replace deteriorated hay bales and other devices as required by the Engineer.
- F. Minimum temporary and permanent erosion and sedimentation control measures are shown on the Drawings. The Contractor shall strictly adhere to the minimum provisions shown. Additionally, temporary measures shall be selected and constructed by the Contractor in consultation with the Engineer to accommodate changing field conditions that develop during construction.

- G. The temporary sedimentation basins shall be maintained from the start of construction until construction of the permanent detention basins and/or stormwater system is completed and perimeter areas are stabilized. A temporary outlet shall be constructed above the expected sediment levels. Construction of the basins shall be sequenced so that the temporary outlet is installed and basin embankment is constructed with the material available from the initial site excavations.
- H. Per NPDES Permit requirements, in disturbed areas where construction has permanently or temporarily ceased, the area must be stabilized within 14 days. If earth-disturbing activities will resume within 14 days, temporary stabilization is not required.
- I. All disturbed areas shall be re-vegetated by loaming and seeding unless otherwise noted on the approved plan.

3.5 MAINTENANCE OF EROSION AND SEDIMENTATION CONTROL MEASURES

- A. The Contractor shall check the condition of erosion and sedimentation control devices daily and maintain them in good operating condition. Hay bales shall be replaced when deteriorated.
- B. The Contractor shall inspect the condition of diversion dikes and ditches, filter berms, interceptor dikes, sediment basins, and other erosion and sedimentation control devices after each rainstorm and during major storm events. Repairs shall be made as necessary.
- C. During construction, temporary outlets of the drainage systems shall direct the flow to temporary or permanent sedimentation basins.
- D. Temporary soil erosion and sedimentation control devices shall be removed and adjacent areas outside the limits of grading restored upon completion of the work or when required by the Engineer.

END OF SECTION 312500

SECTION 321100
BASE COURSES (PAVEMENT)

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section specifies requirements for the preparation of the subgrade for and placement of granular subbase and base materials for pavement areas.
- B. The work includes:
 - 1. Fine grading and compaction of pavement subgrade.
 - 2. Furnishing, placing, and compacting of subbase and base materials.

1.2 RELATED SECTIONS

- A. Other specification Sections which directly relate to the work of this Section include:
 - 1. Section 018900 - SITE CONSTRUCTION PERFORMANCE REQUIREMENTS.
 - 2. Section 310000 - EARTHWORK.
 - 3. Section 321215 - ASPHALT PAVING.
 - 4. Section 033055 - CAST-IN-PLACE CONCRETE (SITE).
 - 5. Section 321723 - PAVEMENT MARKINGS

PART 2 - PRODUCTS

2.1 CRUSHED GRAVEL (NHDOT 304.3)

- A. Crushed gravel shall conform to the requirements of Section 310000 - EARTHWORK.

PART 3 - EXECUTION

3.1 SUBGRADE PREPARATION

- A. All subsurface utility construction shall be completed before fine grading is begun.
- B. The pavement and curb subgrade shall be fine graded to the location, elevations and cross slope shown on the Drawings, using gravel for final adjustments.

- C. Subgrades in in-situ soils in excavation areas and in embankment areas shall be compacted during fine grading to 90 percent of maximum dry density in conformance with Section 310000 - EARTHWORK.

3.2 SUBBASE MATERIAL PLACEMENT

- A. Subbase material shall not be placed until the Engineer has approved the fine grading, compaction and, condition of the subgrade.
- B. Subbase material shall be placed and spread on the approved subgrade in layers not exceeding eight inches (8") in thickness by approved self-spreading equipment. Any displacement of the compacted subgrade material by the equipment shall be restored to the required grade and recompacted before placement of the subbase material.
- C. Subbase material shall be compacted to 95 percent of maximum dry density in conformance with Section 310000 - EARTHWORK.
- D. The surface of the subbase material shall be fine graded to the location, elevations, and cross slope shown on the Drawings during final layer compaction operations.

3.3 BASE MATERIAL PLACEMENT

- A. Base material shall not be placed until the Engineer has approved the fine grading, compaction, and condition of the subbase material.
- B. Base material shall be spread on the approved subbase in layers not exceeding four inches (4") in thickness by approved self-spreading equipment. Any displacement of the subbase material by equipment shall be restored to the required grade and recompacted before placement of the base material.
- C. Base material shall be compacted to 95 percent of dry density in conformance with Section 310000 - EARTHWORK.
- D. The surface of the base material shall be fine graded to the proposed location, elevations, and cross slope shown on the Drawings during final layer compaction operations.

END OF SECTION 321100

SECTION 321215
ASPHALT PAVING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. General: Work under this Section consists of providing asphalt paving complete, as indicated on the Drawings and as specified herein including:
- B. Furnishing hot mix asphalt (HMA) pavement (note - on the Drawings, this is also referred to as 'bituminous concrete paving') composed of mineral aggregate, reclaimed asphalt pavement (RAP), asphalt binder material, and an anti-strip additive (if required), that are mixed in a central mixing plant and then placing the mix on a prepared course in accordance with these specifications and conformance to the lines, grades, thicknesses and typical cross sections as shown on the Drawings or as directed by the Owner.
- C. The work includes:
1. Preparation for HMA paving and furnishing and installing HMA.
 2. HMA overlays over existing pavement, including surface preparation, and leveling courses, tack coating and all other associated operations required.
 3. Saw cutting existing pavements.
- D. Acceptance: The acceptance of plant produced material for gradation, asphalt content, and air voids may be determined by the Owner in accordance with the requirements of the section on ACCEPTANCE CRITERIA, herein specified.

1.2 RELATED SECTIONS

- A. Sections that directly relate to the Work of this Section include:
1. Section 018900 - SITE CONSTRUCTION PERFORMANCE REQUIREMENTS.
 2. Section 310000 - EARTHWORK.
 3. Section 321100 - BASE COURSES (PAVEMENTS).
 4. Section 321723 - PAVEMENT MARKINGS.

1.3 REFERENCE STANDARDS

- A. References herein are made in accordance with the listed specific standards of the following organizations and work under this Section shall conform to the latest edition, unless modified by these Specifications.

1. American Association of State Highway and Transportation Officials (AASHTO).
2. ASTM International (ASTM).
3. Asphalt Institute (AI).
4. U.S. Department of Transportation Federal Highway Administration (FHWA).
5. New Hampshire Department of Transportation (NHDOT) 'Standard Specifications for Road and Bridge Construction', latest edition (NHDOT Specifications).
6. Northeast Transportation Training and Certification Program (NETTCP).

1.4 SUBMITTALS

- A. Job Mix Formula (JMF): No HMA shall be produced until a JMF has been submitted by the Contractor and reviewed by the Owner's Representative.
- B. JMF Submittal: The job mix formula shall be submitted in writing by the Contractor at least 30 days prior to the start of paving operations and shall include as a minimum:
 1. Percent passing each sieve size.
 2. Percent of asphalt binder.
 3. Performance graded asphalt binder certified test results and Material Certificate certifying the PG grade, including source and location.
 4. Mixing temperature.
 5. Compaction temperature.
 6. Percent anti-stripping additive.
- C. JMF Types: The JMF shall identify the various types of asphalt paving (i.e., base course, top coat, sidewalk, etc.) required for the work and shall indicate minimum criteria listed above for each type of asphalt.

1.5 WEATHER LIMITATIONS

- A. General: Construct pavement when atmospheric temperature is above 40°F for courses greater than or equal to 1-1/4 in in compacted depth and above 50°F for courses less than 1-1/4 in in compacted depth, the base is not frozen, and there is not any film of water (free standing water) on the base to be paved.
- B. Mix Temperature: The required temperature of the HMA mixture, within a tolerance of plus or minus 15°F., when delivered at the site, will be governed by the temperature of the base upon which the mix is placed, as follows:

Table 1

Base Temperature in Degrees F	Required Material Temperature in Degrees F. for Course Thickness in Inches			
	1	1-1/2	2	3 and Greater
35 - 40	-	305	295	280
41 - 50	310	300	285	275
51 - 60	300	295	280	270
61 - 70	290	285	275	265
71 - 80	285	280	270	265
81 - 90	275	270	265	260
91 and over	270	265	260	255

- C. Tack Coat: The emulsified asphalt tack coat shall be applied only when the ambient temperature is above 40°F., and when the temperature has been above 35°F. for 12 hours immediately prior to application. Do not apply when base is wet, contains excess moisture, or during rain.
- D. Schedule: Wearing course shall not be scheduled for placement after October 1st or before April 1st of any year without written approval by the Engineer.

1.6 COORDINATION

- A. The Contractor shall coordinate paving with all other work, especially underground utility construction, to prevent covering up unfinished or uninspected work and loss of time or labor by improper scheduling. Any repaving required shall be done at no cost to Owner.

1.7 PAVEMENT WITHIN PUBLIC RIGHT-OF-WAY

- A. The construction of all pavements within public rights-of-way shall be in accordance with the rules, regulations and requirements of the public agency having control and ownership of such rights-of-way.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Aggregate: Shall be from a State-approved source for the production of HMA. The portion of the materials retained on the #4 sieve (4.75 mm) shall be known as coarse aggregate, the portion passing the #4 sieve (4.75 mm) and being retained by the #200 sieve (0.075 mm) as fine aggregate, and the portion passing the #200 sieve (0.075 mm) as mineral filler.
- B. Recycled Asphalt Pavement (RAP): The use of a maximum of 10% recycled asphalt pavement (RAP) will be allowed in the HMA surface courses. All other HMA mixtures may contain a maximum of 25% RAP by mass of the entire mixture.

1. The coarse aggregate in the RAP shall be crushed stone and the top-size shall not exceed the maximum aggregate size established by the JMF. The final HMA mixture containing RAP shall conform to all the specification requirements contained herein.
- C. Asphalt Binder: The performance grade asphalt binder (PGAB) shall be as follows:
1. For mixtures containing 15% or less RAP, the asphalt binder shall be a PG 64-28.
 2. For mixtures containing greater than 15% and up to 25% RAP, the asphalt binder grade shall be a PG 58-34.
- D. Blending of PGAB from different suppliers is strictly prohibited.
- E. Tack Coat: Emulsified asphalt; AASHTO M 140/ASTM D997 or AASHTO M 208/ASTM D2397, RS-1 or CRS-1; CSS-1, CSS-1h, SS-1, SS-1h.
- F. Anti-stripping Additive: When required the additive shall be incorporated and thoroughly dispersed in the asphalt binder material in an amount equal to the percent by weight established by the job mix formula. The treated composite mixture shall have a minimum tensile strength ratio (TSR) of not less than 75, when tested in accordance with AASHTO.
- G. Hot Mix Asphalt: Plant mix may be composed of a homogeneous mixture of aggregate, filler if required, asphalt binder, and/or additives, combined to meet the composition limits by weight and other characteristics as specified. The several aggregate fractions shall be sized, uniformly graded and combined in such proportions that the resulting mixture meets the grading requirements of Section 401 (Pavements) of the NHDOT Standard Specifications.
1. The mineral aggregate shall be of such size that the percentage composition by weight, as determined by laboratory sieves, will conform to the gradation or gradations specified in the NHDOT Standard Specifications when tested in accordance with AASHTO Standards T27 and T11.
 2. The aggregate, as selected and blended, shall have a gradation within the limits designated in the NHDOT Standard Specifications and shall not vary from the low limit on one sieve to the high limit on the adjacent sieve, or vice versa, but shall be well graded from coarse to fine.
 3. The asphalt binder content of the mixture shall be calculated on the percentage basis by weight of the total mix.
 4. The maximum size aggregate used shall not be more than one-half of the thickness of the compacted course being constructed on a prepared surface or that which can be placed to achieve specification requirements. The maximum size is defined as one sieve size larger than the nominal maximum size. The nominal maximum size is defined as one sieve size larger than the first sieve to cumulatively retain more than 10 percent.
- H. Additional Criteria
1. The mixtures shall also conform to the following:

TABLE 4 - MINIMUM PERCENT VOIDS IN MINERAL AGGREGATE

U.S. Standard Sieve Designation (Inches)	Nominal Maximum Particle Size		Minimum Voids in Aggregate (Percent)
	(Inches)	(mm.)	
1/2	0.500	12.5	16
3/4	0.750	19.0	15
1	1.000	25.0	14

2.2 HMA FOR SIDEWALKS AND DRIVEWAYS

A. HMA for sidewalks and driveways shall conform to the requirements of Section 608 (Sidewalks) of the NHDOT Standard Specifications.

2.3 HMA FOR CURBING

A. HMA for curbing shall conform to the requirements of Section 609 (Curbs) of the NHDOT Standard Specifications.

PART 3 - EXECUTION

3.1 GENERAL

- A. The Contractor shall install all pavements in the location and to the grades shown on the Drawings, or approved by the Owner. The type and thickness of pavement courses shall be as shown on the Drawings.
- B. Maintain equipment in satisfactory operating condition and correct breakdowns in a manner that will not delay or be detrimental to progress of paving operations.

3.2 PREPARATION

- A. Proof roll prepared base material surface to identify areas requiring removal and recompaction, and to provide a uniform degree of compaction over the entire pavement area.
- B. Do not begin paving work until deficient base material areas have been corrected and are ready to receive paving. The Contractor shall give 48 hours prior notice before placing HMA. The Owner reserves the right to inspect and approve the finished base upon which HMA is to be placed.
- C. Check all frames, covers, grates, water valve boxes, and other miscellaneous castings that are located in the proposed pavement areas to ensure that all have been correctly positioned and set to the proper slope and elevation.

- D. All vertical surfaces of structures and existing concrete surfaces in contact with new hot mix asphalt pavement shall be painted with a uniform coating of an approved tack coat material. Extreme care shall be exercised in the application of this material to prevent splattering or staining of surfaces that will be exposed after the paving is completed. Surfaces that are stained as a result of the Contractor's operations shall be repaired or replaced by the Contractor at no additional cost to the Owner.
- E. All existing paved surfaces to be overlaid shall be thoroughly cleaned by a self-propelled sweeper. Areas inaccessible by power sweeper shall be broom swept until the pavement surface is clean.

3.3 APPLICATION

- A. Tack Coat: An emulsified asphalt tack coat shall be applied to contact surfaces of all cement concrete and other surfaces abutting or projecting into pavement.
 - 1. Apply tack coat to existing pavement surfaces to receive HMA overlay at a rate of 0.03 to 0.06 gallons per square yard of residual asphalt on the surface.
 - 2. When the intermediate (binder) course pavement is exposed to construction and/or local traffic for more than 30 days or when the surface becomes contaminated with silt, a tack coat shall be applied prior to the surface course pavement at a rate of 0.03 to 0.06 gallons per square yard of residual asphalt on the surface.
 - 3. Tack coat shall be allowed to cure from brown to black prior to receiving paving.
- B. Weather Limitations: The hot mix asphalt shall not be placed when weather conditions of fog or rain prevail or when the pavement surface or base shows signs of free moisture (film of water). When the surface temperature of the underlying course is less than 50°F. (10°C.) the Contractor shall determine the time available for compaction, taking into consideration the air temperature, wind speed, sky conditions, mix delivery temperature, and ground or base temperature. Contractor shall not place hot mix asphalt when the time available or required for compaction will allow the temperature of the HMA to drop below specified levels.
- C. The Contractor shall not continue work when overtaken by sudden storms until the pavement surface shows no signs of free moisture. The material in transit at the time of shutdown will not be placed until the pavement surface shows no signs of free moisture, provided the mixture is within temperature limits as specified.

3.4 HOT MIX ASPHALT PAVEMENT PRODUCTION AND PLACEMENT

- A. Asphalt Binder Material: The Contractor shall maintain documentation in the form of a Materials Certificate of each shipment. Material shall conform to the specification requirements for the applicable performance grade as specified herein.
- B. Job Mix Formula (JMF): No HMA shall be produced until a JMF has been submitted by the Contractor and approved by the Owner. A separate job mix formula shall be submitted for

each mixture and each approved RAP stockpile (the stockpile shall be of a uniform quality throughout).

- C. The approved JMF for each mixture shall be in effect until modified in writing by the Contractor. Should a change in sources of materials be made, a new JMF must be developed and approved before the new material is used
- D. Sampling: Sampling and testing may be performed by the Owner to assure conformance with these specifications. Contractor shall make materials available for sampling by Owner.
- E. JMF Tolerances: The job mix formula with the allowable tolerances stated in the Standard Specifications shall govern the production limits. Minimum liquid asphalt contents shall be within the limits stated in the NHDOT Standard Specifications.
- F. Hot Mix Asphalt Mixing Plants, Haul Vehicles, Pavers and Compactors: Shall conform to the NHDOT Standard Specifications unless modified herein.
- G. Hand Work: Whenever possible, all pavement shall be spread by a self-propelled finishing machine. At inaccessible or irregular areas, pavement may be placed by hand methods. If hand methods are used, the hot mixture shall be spread uniformly to the required depth with hot shovels and lutes. After spreading, the hot mixture shall be carefully smoothed to remove all segregated coarse aggregate and lute marks. Lutes used for hand spreading shall be of the type designed for this use. Material loads shall not be dumped faster than they can be properly spread. Workers shall not stand on the loose mixture while spreading.
- H. Paving Machine Placement: Upon arrival, the mixture shall be placed to the full width by a hot mix asphalt paver. The mixture shall be struck off in a uniform layer of such depth that, when the work is completed, it shall have the required thickness and conform to the grade and contour indicated. The speed of the paver shall be regulated to eliminate pulling or tearing of the hot mix asphalt mat. Unless otherwise permitted, placement of the mixture shall begin along the centerline of a crowned section or on the low side of areas with a one-way slope. The top course in larger parking areas shall be placed in the direction of surface water flow
 - 1. No traffic will be permitted over freshly placed surface course material until the material has been compacted, and allowed to cool to a temperature of 140°F. or less.
- I. Joints: Make joints between old and new pavements and between successive days' work, to ensure continuous bond between adjoining work. Construction joints shall have the same texture, density, and smoothness as other sections of paving. Clean contact surfaces and apply tack coat to joint edges.

3.5 ROLLING AND COMPACTION

- A. The number, weight, and types of rollers and sequences of rolling operations shall be such that the required compaction and surface texture are consistently attained while the mixture is in a workable condition.

- B. Compact mixture with hot hand tampers, hand rollers, or vibratory plate compactors in areas inaccessible by self-propelled rollers.
- C. Accomplish breakdown or initial rolling immediately following rolling of joints and outside edge. Check surface after breakdown rolling, and repair displaced areas by loosening and filling, if required, with hot material.
- D. Follow breakdown rolling as soon as possible, while mixture is hot. Continue rolling until mixture has been thoroughly compacted.
- E. Perform finish rolling while mixture is still warm enough for removal of roller marks. Continue rolling until roller marks are eliminated and course has attained specified density.
- F. Remove and replace paved areas mixed with foreign materials and any defective areas with fresh HMA top or intermediate course material, as required. Compact by rolling to specified surface density and smoothness.
- G. After final rolling, do not permit vehicular traffic on pavement until it has cooled and hardened. Erect barricades to protect paving from traffic.

3.6 HMA SIDEWALKS

- A. Forms: Where walls, curbing or other suitable permanent supports are not present, satisfactory forms shall be installed to assist in securing alignment and adequate compaction of the courses. All forms shall be removed after paving has been completed and the area backfilled and compacted.
- B. Placing HMA: The bottom (binder) course shall be [2-1/4] inches in thickness after compaction, and its surface after rolling shall be parallel to the proposed grade of the finished surface. The top (wearing) course shall be [1-1/4] inch in thickness after compaction.
- C. Unless otherwise directed, the walkway shall have a 1.5% slope to provide for proper drainage and shall conform to handicap accessibility requirements.
 - 1. Spreading Mixture: The mixture shall be dumped, as needed, into a self-propelled sidewalk paver, or into wheelbarrows or an approved steel dump sheets outside the areas on which it is to be placed. Mixture shall then be immediately distributed into place by means of shovels and lutes into a uniformly loose layer to the full width required and of such depth that, when the work is completed, it shall conform to the grade and surface contour required.
 - 2. Rolling: The surface shall be rolled with a self-propelled tandem roller weighing not less than 1-1/2 tons and not more than 5 tons. In places not accessible to a power roller, compaction shall be obtained by means of mechanical rammers or by hand tampers weighing not less than 50 lbs. and having a tamping face not exceeding 100 square inches.

3. Testing Surface: When tested with a 10-foot straightedge placed parallel to the centerline of the courses, there shall be no deviation from a true surface in excess of 1/4 of an inch.

3.7 FIELD QUALITY ASSURANCE

- A. Independent Testing Laboratory, selected and paid for by the Owner, may be retained to perform construction testing of in-place HMA courses for compliance with requirements for density, thickness, and surface smoothness.
- B. Thickness: In-place compacted thickness shall not be less than the thickness specified on the Drawings. Areas of deficient paving thickness shall receive a tack coat and a minimum 1-inch compacted thickness overlay; or shall be removed and replaced to the proper thickness, at the discretion of the Owner, until specified thickness of the course is met or exceeded, at no additional cost to the Owner.
- C. Surface Smoothness: Testing may be performed on the finished surface of each course for smoothness, using a 10-foot straightedge applied parallel with, and at right angles to centerline of paved area. Surfaces may not be acceptable if they exceed the following tolerances for smoothness:
 - Intermediate (binder) course: 3/8 inch.
 - Top course: 1/4 inch.
- D. Compaction: The in-place compaction of each course shall be compacted to a density of at least ninety-two percent (92%) and no more than ninety-seven percent (97%) of the theoretical maximum specific gravity, AASHTO T 209, Type C, D, or E container.
- E. Areas of insufficient compaction shall be delineated, removed, and replaced in compliance with the specifications at no additional cost to the Owner.

3.8 MATERIAL ACCEPTANCE

- A. Acceptance Sampling and Testing: All acceptance sampling and testing necessary to determine conformance with the requirements specified in this Section may be performed by the Owner, or his representative.
 1. Plant Produced Material: Plant produced material may be tested for gradation, asphalt content, and air voids on a random basis.
 2. Field Placed Material: Material placed in the field may be tested for mat and joint density, and compacted thickness on a random basis, in accordance with ASTM D3665.

3.9 ACCEPTANCE CRITERIA

- A. General: Acceptance will be based on the following characteristics of the hot mix asphalt and completed pavement on a material course:

1. Hot Mix Asphalt Production
 - a. Plant air voids
 - b. Gradation
 - c. Asphalt binder content
 - d. Mixture Temperature
 2. Hot Mix Asphalt Placement
 - a. Mat density
 - b. Joint density
 - c. Thickness
 - d. Inferior Material
 - e. Smoothness
 - f. Grade
 3. Material not conforming to specification requirements shall be subject to corrective action, production suspension, rejection, removal, or reduced payment as determined by the Owner.
- B. Inferior Material: The Owner may at any time, notwithstanding previous acceptance, notify the Contractor of inferior material and recommend the rejection of any batch of HMA which is rendered unfit for use due to contamination, segregation, incomplete coating of aggregate, or improper mix temperature. Such recommendation may be based on only visual inspection or temperature measurements.
- C. Smoothness: The finished surfaces of the pavement shall be uniform in appearance, free from irregularities in contour and texture, and shall present a smooth-riding surface.
1. Measurements should be made perpendicular and parallel to the paver passes at distances not to exceed 50 feet (15.2 m).
 2. When profile corrections are required, the Contractor shall use one or more of the following corrective methods:
 - a. Removing and replacing the entire pavement thickness;
 - b. Diamond grinding or micro milling;
 - c. Overlaying (not patching) with the specified surface course;
 - d. Removing the surface by milling and applying lift(s) of the specified course(s);
 - e. Use of other methods that will provide the desired results.
- D. Grade: The finished surface of the pavement shall not vary from the gradeline elevations and cross sections shown on the Drawings by more than 1/2 inch (12.70 mm). The Contractor shall remove deficient areas and replace with new material. Sufficient material shall be

removed to allow at least 1.5 inches (37.5 mm) of hot mix asphalt to be placed. Skin patching for correcting low areas will not be permitted. High points may be ground off. The Contractor shall make tests for conformity with the specified crown and grade immediately after initial compaction. Any variation shall be corrected by the removal or addition of materials and by continuous rolling.

- E. Shaping Edges: While the surface is being compacted and finished, the Contractor shall carefully trim the unsupported outside edges of the pavement not receiving curbing. Edges so formed shall be beveled while still hot with the back of a lute or smoothing iron and thoroughly compacted by tampers or by other satisfactory methods.
- F. Corrective Methods: The corrective method(s) chosen by the Contractor shall be performed at the Contractor's expense, including all necessary equipment and traffic control.
1. Areas of removal and replacement shall be removed the full width of the paver pass. The removal areas shall be reconstructed with a transverse butt joint, using a transverse saw cut perpendicular to the paver pass.
 2. Replacement materials shall be placed in sufficient quantity so the finished surface will conform to grade and smoothness requirements. The corrective area shall conform to all material and compaction specification requirements.
 3. When the corrective work consists of an overlay, the overlay shall cover those paver passes sufficient to correct the defects. The area overlaid shall be placed with a transverse butt joint using a transverse saw cut and asphalt removal.
 4. All materials shall meet contract requirements. The overlay shall be placed so the finished surface will conform to grade and smoothness requirements. The overlay area shall be compacted to the specified density.
 5. The Owner may retest any sections where corrections were made to verify that the corrections produced a surface that conforms to the grade and smoothness requirements.

3.10 MEETING EXISTING PAVEMENTS

- A. General: Where new pavements will abut existing pavements, the Contractor shall saw cut the existing pavements to produce a uniform, smooth joint surface. Saw cutting of existing pavements shall be neat, straight and even lines, and done in a manner that prevents damage to the pavement to remain.
- B. Full-Depth Pavement: Saw cut by approved method to the full depth of the pavement prior to placement of any new pavement. The saw cut surface shall be a neat true line with straight vertical edges free from irregularities. The saw cut surface shall be tack coated immediately prior to the installation of the new abutting HMA material to provide a bond between the old and new pavements. The new compacted pavement surface shall be finished flush with the abutting pavement.

- C. HMA Overlays: The existing hot mix asphalt pavement shall be saw cut to a neat true line with straight vertical edges free of irregularities for a minimum depth of 1-1/2 inches. Prior to completing overlays, existing pavements shall be tapered by grinding. The taper, along the entire length of the joint, shall be 1-1/2 inch deep at the saw cut face and shall taper to zero inches deep toward the overlay at a distance of 6 feet for driveways and parking areas, and 12 feet in roadways and streets. The taper shall be cleaned and shall receive an asphalt emulsion tack coat immediately prior to placement of the overlay to bond the new pavement to the old pavement. The new compacted surface at the joint shall be flush with the abutting existing pavement.
- D. The surface seam of the pavement joint shall be sealed with tack coat and back sanded.

END OF SECTION 321215

SECTION 321723
PAVEMENT MARKINGS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section specifies requirements for removal of existing pavement markings and construction of new pavement markings.
- B. The work includes:
1. Removal of existing markings by approved methods.
 2. Pavement surface preparation.
 3. Furnishing and installing new pavement markings.

1.2 RELATED SECTIONS

- A. Sections which directly relate to the work of this Section include:
1. Section 018900 - SITE CONSTRUCTION PERFORMANCE REQUIREMENTS.
 2. Section 313000 - EARTHWORK.
 3. Section 321100 - BASE COURSES (PAVEMENT).
 4. Section 321215 - ASPHALT PAVING.

1.3 SITE CONDITIONS

- A. The Contractor shall cordon off areas where markings are being applied, but maintain access for vehicular and pedestrian traffic as required for other construction activities. Flagmen, barricades, drums, warning signs, warning lights, and similar devices shall be used as required.

1.4 SUBMITTALS

- A. Submit material certificate to the Engineer, signed by the material producer and Contractor, certifying that materials comply with these specifications and have been approved for use by the New Hampshire Department of Transportation (NHDOT).

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Pavement markings shall conform to the Standard Specifications for Road and Bridge Construction, NHDOT and the Manual of Uniform Traffic Control Devices, current editions.
- B. Traffic markings shall be yellow or white Traffic Marking Paint as manufactured by Sherwin-Williams (S-W) equal to Sherwin-Williams Paints 'SetFast Acrylic Latex Traffic Marking Paint Yellow' (S-W TM2161) or Sherwin-Williams Paints 'SetFast Acrylic Latex Traffic Marking Paint White' (S-W TM2160), or approved equal.

PART 3 - EXECUTION

3.1 PREPARATION

- A. The Contractor shall clean the pavement of dust, dirt, old pavement markings, concrete curing compounds, and other foreign material which may be detrimental to the adhesion of the pavement marking materials.

3.2 REMOVAL OF EXISTING PAVEMENT MARKINGS

- A. Existing pavement markings that conflict with the proposed markings, and those shown on the Drawings, shall be removed.
- B. Pavement markings shall be removed before any change is made in the traffic pattern.
- C. Any excessive damage to the pavement caused by pavement marking removal shall be repaired by the Contractor by methods acceptable to the Engineer at no additional cost to the Owner.
- D. Approved methods of pavement markings removal include:
 - 1. Sandblasting using air or water.
 - 2. High pressure water.
 - 3. Steam or superheated water.
 - 4. Mechanical devices such as grinders, sanders, scrapers, scarifiers and wire brushes.
- E. Painting over a pavement marking line with asphaltic liquids or paints will not be allowed unless approved by the Engineer.
- F. Material deposited on the pavement from removal operations shall be removed as the work progresses. Accumulations of sand or other material which might interfere with drainage or could constitute a hazard to traffic will not be permitted.

- G. Where sandblasting is used for the removal of pavement markings and the removal operation is being performed within 10 feet of a lane occupied by traffic, the residue, including dust, shall be removed immediately as the marking removal progresses by a vacuum attachment operating concurrently with the blast cleaning operation, or by other methods approved by the Engineer.

3.3 PAVEMENT MARKING APPLICATION

- A. The material shall be applied to the pavement by equipment designed and manufactured specifically for the application of pavement markings.
- B. The Contractor shall employ the services of a registered land surveyor to provide control for layout of pavement markings.
- C. Paint markings shall be applied at a minimum thickness of 15± 1 mil. Thermoplastic markings shall be applied at 125 to 188 mils thickness.
- D. Pavement markings shall be applied in accordance with the layout shown on the Drawings. No paint shall be applied to new bituminous pavement until the top course has cured at least one week.
- E. All parking stalls and stop bars shall be white, and shall be spaced equally. The line indicated on the Drawings is on the center line of the stall marking.
- F. Where entire areas are to be cross-hatched, the striping shall conform to the cross-hatching shown on the Drawings.
- G. All parking stall markings shall be straight with sharp corners and clean edges. Directional arrows, cross-hatching, lane divider stripes, stop lines, and lettering shall be painted white to the size, length, and spacing shown on the Drawings.
- H. All markings shall be applied in one coat with brush, spray, or marking machine over clean dry pavement surfaces, when the atmospheric temperature is at or above 40°F., and when the weather is otherwise favorable in the opinion of the Engineer.
- I. Use only skilled workmen who are experienced and normally employed in the work of installing pavement markings. Supply all the necessary equipment and materials required for the work.
- J. The Contractor shall protect the buildings, walks, pavement, curbing, trees, shrubs, mulch, and other site fixtures from over-spray of paint and damage from pavement marking operations.
- K. Traffic shall not be permitted on the pavement until the paint is thoroughly dry and/or thermoplastic markings completely cured.

END OF SECTION 321723

SECTION 329000
PLANTING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section specifies requirements for the preparation and planting of trees, shrubs, and other plants in landscaped areas.
- B. The work includes:
1. Furnishing and installation of trees, shrubs, and groundcover plants.
 2. Fertilizing and backfill soil mix.
 3. Maintenance, clean-up, and guarantee.

1.2 RELATED SECTIONS

- A. Sections which directly relate to the work of this Section include:
1. Section 312500 - EROSION AND SEDIMENTATION CONTROLS.
 2. Section 310000 - EARTHWORK.
 3. Section 329220 - SEEDING AND SODDING.

1.3 SUBMITTALSA. Manufacturer's Product Data

1. Submit material manufacturer's literature and installation instructions where applicable attesting that the following materials meet the requirements specified:
 - a. Loam / Topsoil
 - b. Fertilizer and Soil Amendments
 - c. Bark Mulch
 - d. Antidesiccant
 - e. Stakes/Guy Wires/Nylon Straps

B. Soil Test Reports

1. Prior to ordering the topsoil, submit soil test report to the Engineer for review and approval. Do not order materials until the Engineer's approval has been obtained. Delivered materials shall closely match the approved samples.
 - a. Topsoil: The Contractor shall employ a certified testing laboratory to test on-site and off-site topsoil materials and submit test reports of each directly to the Engineer. Reports shall include:

- (1) Tests for phosphorus, potassium, calcium, soluble salts and soil pH in accordance with the current AOAC International "Standards".
- (2) Submittal at least one month before any topsoil spreading is scheduled.
- (3) Location of sample source.

C. Certificates

1. A Certificate of Compliance to the specifications shall be submitted by the nursery grower with each shipment of each type of plant, certifying that plants meet the genus, species, and cultivator type specified on the Plant List.

D. Maintenance Manual

1. The Contractor shall submit a written manual prepared for the Owner that outlines a schedule for proper maintenance of the plantings. This maintenance schedule shall include timing and methods for watering, fertilization, mulching, pruning, and other maintenance operations.

E. Submittal Schedule

1. Before installation:
 - a. Manufacturer's Product Data. See Section 1.07A.
 - b. Soil Test Reports.
 - c. Plant Certification.
2. After installation and before acceptance:
 - a. Maintenance Manual.

1.4 QUALITY ASSURANCE

- A. All planting operations shall be performed by experienced personnel under competent supervision. Education, experience and certification or license by appropriate organization may be reviewed to evaluate competence.
- B. Plant Approval: Plants shall be inspected and approved by the Owner's Representative. Plants shall be inspected at the grower's nursery and upon delivery at the site for conformity to specification requirements. Approval of plants at the source does not replace additional inspection and rejection at the site, or during the progress of the work. Rejected plants shall be removed immediately from the site. A Contractor's representative shall be present at all inspections. All plants on the Plant List shall be pre-selected by the Contractor to ensure that plants of specified size and species are available at the nursery before the plant selection trip is scheduled. The Engineer's cost for inspection trips outside the Commonwealth of Massachusetts shall be paid by Contractor.

1.5 TESTING

- A. All topsoil obtained from on-site and from off-site sources used in the work shall be tested prior to being spread or mixed. All testing shall be done by approved independent test laboratory or by the agriculture unit of state university system. Contractor shall provide required representative samples of material for testing to the testing laboratory site.
- B. Test analysis shall include:
- C. Classification of soil.
- D. Percent sand, silt and clay particles.
- E. Percent organic content.
- F. Percent soluble salt index.
- G. Test reports shall include specific recommendations as to the exact types, times, and rates of application of soil additives and fertilizers based upon the soil test results and type of material to be planted.
- H. Specified soil additive materials and fertilizer types and requirements are approximate and all soil additives shall be adjusted to comply with test reports.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Deliver plant materials to site in healthy and undamaged condition.
- B. Move plant material with solid balls wrapped in burlap or synthetic wrapping.
- C. Deliver plant materials immediately prior to placement. Keep plant materials moist. As required by temperature or wind conditions, apply antidesiccant emulsion to prevent drying out of plant materials.
- D. Reject plants when ball of earth surrounding roots has been cracked or broken preparatory to, or during, process of planting.
- E. Reject plants when burlap, staves, and ropes required for transplanting have been displaced prior to acceptance.

1.7 GUARANTEE

- A. Provide one-year guarantee from date of plant material acceptance.
- B. Replace plant materials found dead or not in a healthy growing condition. Plants shall exhibit at least 75% healthy branching and foliage, and shall be free of insect or disease damage. Replace plants during normal planting season.

- C. Replacement: Plant materials shall be of same size and species, with a new warranty commencing on date of replacement. The Engineer shall be given a three day notice of installation of replacement plants to allow inspection of plant material.

1.8 INSPECTION FOR ACCEPTANCE

- A. After the minimum thirty (30) day maintenance period, the Contractor shall request from the Engineer, in writing, for an inspection to determine whether the plant material is acceptable. If the plant material and workmanship are acceptable, written notice will be given by the Engineer to the Contractor stating that the guarantee period begins from the date of the Certificate of Acceptance.
- B. If a substantial number of plants are sickly and dead at the time of inspection, acceptance will not be granted, and the Contractor's responsibility for maintenance of all the plants shall be extended until replacements are made. All dead and unsatisfactory plants shall be promptly removed from the site. Replacements shall conform in all respects to the specification for new plants and shall be planted in the same manner.

PART 2 - PRODUCTS

2.1 PLANT MATERIALS

- A. The Contractor shall furnish and plant all plants shown on the Drawings. Plants shall conform to measurements and species designated on plant list and standards as established in American Standard for Nursery Stock ANSI Z60.1, latest edition. No substitutions will be accepted, without prior approval. Such requests shall be made at least five days before planting. Requests shall list at least five major nursery sources contacted for confirmation of unavailability.
- B. All plant material shall be nursery grown and shall be shapely, well-grown, healthy, sound, and free of disease, insect pests, eggs or larvae, and shall have a well developed root system. All plants shall be typical of their species or variety and shall have a normal habit of growth. They shall conform to the trade classification of "heavy specimen".
- C. All trees and shrubs shall be freshly dug; no heeled-in plants and no plants from cold storage will be accepted. Plants shall have been transplanted or root pruned at least once in the last three years. All plants shall be hardy under climatic conditions similar to those in the locality of the work. All plant materials shall be properly identified by name on legible, weatherproof labels securely attached thereto.
- D. Container grown plants shall have sufficient roots to hold planting mix intact after removal from containers without being root-bound.
- E. Plants that meet the measurements specified, but do not possess a normal balance between height and spread will be rejected.

- F. Plants shall not be pruned before delivery. Trees which have a damaged or crooked leader, or multiple leaders, will be rejected. Trees with abrasion of the bark, sunscalds, disfiguring knots or fresh cuts of limbs over 1-1/4 inches, which have not completed calloused, will be rejected.
- G. Certificates of inspection shall accompany the invoice for each shipment of plants as may be required by laws for transportation. File certificates with the Construction Manager prior to unloading material at the Project site. Inspection at place of growth does not preclude rejection of the plants at the site.
- H. Plant material which is to be planted after the specified seasons for planting shall be dug during the normal season for digging of the particular plant material and be stored and maintained in good health until planting. The Contractor shall pay all costs for maintaining plant material while it is being stored.
- I. Plant List: If there is any discrepancy between quantities shown on the Plant List and work shown on the Drawings, the Contractor shall supply the plants required to complete the work as shown on the Drawings. Where the size of a plant on the Plant List is a variation between a minimum and maximum dimension, the sizes of the plants furnished shall be equal to the average of the two dimensions. Where a single dimension is given, it shall be the minimum size of the plants to be furnished.

2.2 TOPSOIL

- A. Topsoil shall conform to the requirements specified in Section 310000 - EARTHWORK.

2.3 SOIL CONDITIONING MATERIALS

- A. Apply conditioning materials in accordance with the recommendations of testing laboratory.
- B. Limestone for adjustment of soil pH shall be ground dolomitic limestone containing not less than 85% of total carbonated and shall be ground to such a fineness that 40% will pass through a 100-mesh sieve and 90 percent will pass through a 20-mesh sieve. Coarser material shall be acceptable provided specific rates of application are increased proportionately on the basis of quantities passing the 100-mesh sieve. Limestone shall be uniform in composition, and shall be dry and free flowing. Limestone shall be delivered to the site in original unopened containers, each bearing manufacturer's guaranteed analysis.
- C. Commercial Fertilizer shall conform to state and federal fertilizer laws. Commercial fertilizer shall be uniform in composition, dry and free flowing, and shall be delivered to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis. Any fertilizer which becomes caked or otherwise damaged, making it unsuitable for use, will not be accepted. At least 50% by weight of the nitrogen contents of the fertilizer shall be derived from organic sources. A minimum of 35% of the nitrogen shall be water insoluble. Fertilizer shall contain not less than percentage of weight of ingredients as follows or as recommended by soil analysis:

Plant Material to be Fertilized /Fertilizer Type	Nitrogen N	Phosphorus P	Potassium K
Deciduous Trees and Shrubs (dry)	10%	6%	4%
Deciduous Trees and Shrubs (water soluble)	6%	19%	16%
Evergreen Trees and Shrubs (dry)	7%	7%	7%
Evergreen Trees and Shrubs (water soluble)	21%	7%	7%

- D. Humus shall be natural humus, reed peat or sedge peat. Humus shall be free from excessive amounts of zinc, low in wood content, free from hard lumps, shall be furnished in a shredded or granular form, and shall pass through a 1/2 inch mesh screen. According to the methods of testing of AOAC International latest edition, the pH range shall be 5.5 to 7.0 and the organic content shall be not less than 60% as determined by drying at 105 degrees C. The minimum water absorbing ability of the humus shall be 200% by weight on an oven-dry basis.
- E. Peat Moss shall be composed of the partly decomposed stems and leaves of any or several species of sphagnum moss. Peat moss shall be free from wood, decomposed colloidal residue and other foreign matter and have a pH range of 3.5 to 5.5, as determined in accordance with the methods of testing of AOAC latest edition. The water absorbing ability of the peat moss shall be a minimum of 1,100% by weight on an oven-dry basis.
- F. Manure shall be well-rotted, unleached stable manure not less than eight months and not more than two years old, free from sawdust, shavings, or refuse of any kind and shall not contain over 25% straw. The Contractor shall furnish information as to kind of disinfectant or chemicals, if any, that may have been used in storage of the manure.
- G. Bone Meal shall be fine ground, steam-cooked, packing house bone with a minimum analysis of 23% phosphoric acid and 1.0% nitrogen.
- H. Leaf Mold shall be a highly organic dark brown to black spongy residue resulting from the well-aerated composting of deciduous tree parts, free of plants and their roots, debris, and other extraneous matter and shall be uncontaminated by foreign matter and substances harmful to plant growth. The organic matter shall not be less than 85% by weight as determined by the loss on ignition of oven-dried samples. Test samples shall be oven-dried to a constant weight at a temperature of 16 degrees C. The inorganic residue of leaf mold after ignition shall not be finer textured than 4% by weight passing the No. 200 sieve with washing.
- I. Mulch shall be native shredded pine bark, 100% organic, having a maximum moisture content of 40%, and shall be free of any disease and insects. Mulch material shall pass a 1 inch square mesh and be retained on a 1/8 inch square mesh.

2.4 PLANT BACKFILL MIXTURE

- A. Plant backfill mixture shall consist of 75% in-situ topsoil and 25% peat moss or leaf mold, by volume, thoroughly mixed together. In addition, plant backfill mixture shall have fertilizer, cow manure, and other additives added as required by recommendations of the testing laboratory reports.

- B. The plant backfill mixture shall have a pH of 5.5 to 7.6.

2.5 WATER

- A. Water shall be furnished by the Contractor in the quantities required to maintain healthy growth of plant materials and shall be suitable for irrigation and free from ingredients harmful to plant life. The Contractor shall provide all hose and other watering equipment required for the work.

2.6 SUPPORT MATERIALS

- A. Nylon tree straps shall be used for staking trees. Straps shall be sized per manufacturer's recommendations for the size of tree.
- B. Wire for staking and guying shall be pliable annealed twisted galvanized steel wire, galvanized eyebolts, and galvanized turnbuckles of sufficient strength to withstand wind pressure.
- C. Hose to encase wires and cables shall be new two-ply reinforced rubber garden hose not less than 1/2-inch in diameter, black in color.
- D. Stakes shall be hardwood stakes and shall be sharp pointed at one end. Size and length of the stakes shall be as required for staking and guying.
- E. Material for supporting trees shall be in accordance with the following schedule:

Tree Type/Tree Size	Staking or Guying Material	Wire	Turnbuckle or Flag
Deciduous Trees			
1-1/2 to 3-1/2 in. caliper	2 in. x 2 in. cedar stake (3 required)	N/A	N/A
3-1/2 to 6 in. caliper	6 in. ground anchor or 6 in. diameter deadman by 2 ft. (3 required)	3/16 in. dia. triple stranded cable	5/16 in. by 4-1/2 in., galv. with flag
6 to 8 in. caliper	6 in. ground anchor or 6 in. diameter deadman by 3 ft. long (3 required)	3/16 in. dia. cable	5/16 in. by 4-1/2 in. galv. with flag
8 to 10 in. caliper	8 in. ground anchor or 8 in. diameter deadman by 3 ft. long (4 required)	1/4 in. dia. cable	3/8 in. by 6 in., galv. with flag
10 to 12 in. caliper	10 in. ground anchor or 10 in. diameter deadman by 3 ft. long (4 required)	5/16 in. dia. cable	1/2 in. by 8 in., galv. with flag
Evergreen Trees and Shrubs			
5 to 7 ft. height	2 in. x 3 in. by 3 ft. long wood stake, staining optional (3 guys required)	1/8 in. dia. single stranded wire	3-1/2 in. with flag
7 to 12 ft. height	2 in. x 4 in. by 3 ft. long wood stake, staining optional, or 4 in. ground anchor (3 guys required)	3/16 in. dia. triple stranded cable	8 in. with flag
12 to 16 ft. height	6 in. ground anchor or 6 in. diameter deadman by 3 ft. long (3 required)	3/16 in. dia. cable	5/16 in. by 4-1/2 in., galv. with flag
16 to 20 ft. height	8 in. ground anchor or 8 in. diameter deadman by 3 ft. long (4 required)	1/4 in. dia. cable	3/8 in. by 6 in., galv. with flag
20 to 25 ft. height	10 in. ground anchor or 10 in. diameter deadman by 3 ft. long (4 required)	5/16 in. dia. cable	1/2 in. by 8 in., galv. with flag

2.7 ANTIDESICCANT

- A. Antidesiccant emulsion that will provide a protective film over plant surfaces, permeable enough to permit transpiration, delivered in containers with manufacturer's directions. Antidesiccant shall be Wiltpruf, manufactured by Nursery Specialty Products, Inc., Stubbins Road, Groton Falls, New York, or approved equivalent. Apply according to manufacturer's recommendations.

PART 3 - EXECUTION

3.1 PLANTING DATES

- A. Plant within the following dates:
1. Evergreen Trees and Shrubs:
 - a. Spring: April 1 - June 1.
 - b. Fall: September 1 - November 1.
 2. Deciduous Trees and Shrubs:
 - a. Spring: April 1 - June 15.
 - b. Fall: October 1 - November 15.
 3. Planting shall be prohibited in frozen or muddy ground.
- B. Special conditions may warrant a variance in the above dates. Contractor shall notify the Engineer of the conditions and the proposed variance. Permission will be given if the variance is warranted.
- C. Approximate planting date schedules shall be furnished by Contractor to the Engineer for approval. Material planted out-of-season shall be given extra care and attention by the Contractor. Out-of-season planting shall be performed entirely at the Contractor's risk.

3.2 EXCAVATION OF TREE PITS AND SHRUB BEDS

- A. Stake out on the ground locations for trees and outlines of all planting beds. Obtain approval of the Engineer before excavation.
- B. If rock, utilities, tree roots, or obstructions are encountered in the excavation of shrub beds and tree pits, alternate locations may be selected by the Engineer.
- C. Test drainage of plant beds and pits by filling with water twice in succession. Conditions permitting the retention of water for more than 24 hours shall be brought to attention of the Engineer.
- D. Notify the Engineer in writing of all soil or drainage conditions which the Contractor considers detrimental to the growth of plant material.

- E. Excavate tree pits and shrub beds to depths required. Tree pits shall be circular in outline. Tree pits shall be three times wider than the root ball diameter.

3.3 PLANTING

- A. Place plants in the center of the holes. Use planting mix to backfill plant pits. Place planting mix in layers not to exceed 8 inches thick.

Set the trunk flare of the plant slightly above the finish grade in the same relationship it was to the ground from which it was dug. Set plant plumb, turned to face best side of plant forward, and brace firmly in position until the planting mix has been tamped lightly around the ball and roots. When plant pits have been backfilled approximately two-thirds full, water thoroughly to eliminate air pockets before installing remainder of the planting soil. Cut ropes or wires from top two-thirds of ball after plant has been set. Cut away and remove all visible burlap wrapping from around root balls. Loosen surface soil of root ball and comb out any exposed roots. Remove synthetic wrap and **slowly** biodegradable materials completely.

- B. Form saucers, 3 inch deep, around tree pits and shrub beds.
- C. Water all plants immediately after planting. All plants shall be flooded with water twice within the first 24 hours of planting.
- D. Mulch all pits and beds to the required depth immediately after planting and first watering.

3.4 TREE SUPPORT

- A. Firmly stake or guy all trees immediately after planting. Plants shall stand plumb after staking or guying. Stakes shall be plumb and neat, and shall be installed in accordance with the details shown on the Drawings
- B. **REMOVAL** – The contractor shall remove all stakes, webbing, and supporting materials one year after planting in accordance with Section 3.9.

3.5 PRUNING

- A. Each tree and shrub shall be pruned in accordance with American Nurserymen Association Standards to preserve the natural character of the plant.
- B. Pruning shall include the following:
 - 1. Remove all dead wood, suckers, and broken or badly bruised branches. Never cut a leader.
 - 2. Use only clean, sharp tools.
- C. Apply antidesiccant to foliage if conditions warrant.

3.6 CLEAN-UP

- A. Soil or other material deposited on paved areas shall be promptly removed. Keep paved areas clean at all times.
- B. Upon completion of planting, all excess stones, debris, and soil shall be cleaned up and removed from the site.
- C. Broom and hose clean all pavements.

3.7 MAINTENANCE AND PROTECTION OF PLANTINGS

- A. Maintenance shall begin immediately after each plant is planted and shall continue until acceptance.
- B. Maintenance shall include:
 - 1. Pruning, watering, cultivating, weeding, mulching, tightening, and repairing of stakes or guys, resetting plants to proper grades or upright position, restoration of the planting saucer, and furnishing and applying sprays required to keep the planting free of insects and disease.
 - 2. Protect planting areas and plants against trespassing and damage of all kinds for the duration of the maintenance period. If any plants become damaged or injured, they shall be treated or replaced as required.
 - 3. All plantings shall be thoroughly saturated at least twice per week during maintenance period.

3.8 REJECTION AND REPLACEMENT

- A. Promptly remove rejected plant material from site.
- B. Replace as soon as planting conditions permit with plants of same species and of the required quality.

3.9 ONE YEAR GUARANTEE INSPECTION

- A. **One year after the date of acceptance, the Contractor shall conduct an inspection of the condition of the plantings, jointly with the Engineer and/or Owner.** A written report on the results of the inspection shall be provided to the Owner. The Contractor shall replace any dead or unhealthy plants at this time.
- B. **The Contractor shall remove tree wraps and tree support systems on all plantings at this time.**

END OF SECTION 329000

SECTION 329220
SEEDING AND SODDING

PART 1 - GENERAL

1.1 DESCRIPTION

- A. This Section specifies requirements for topsoil, seeding, and sodding for site landscape areas. **All seed for this project shall be Lawn Seed (For Lawns) as specified in Section 2.4.**
- B. The work includes:
1. Furnishing, spreading, and fine grading of topsoil and loam borrow
 2. Application of lime and fertilizers.
 3. Seeding, sodding, and mulching
 4. Maintenance of seeded and sodded areas.

1.2 RELATED SECTIONS

- A. Sections which directly relate to the work of this Section include:
1. Section 312500 - EROSION AND SEDIMENTATION CONTROLS.
 2. Section 310000 - EARTHWORK.
 3. Section 329000 - PLANTING

1.3 SUBMITTALS

A. Manufacturers Product Data

1. Submit material specifications and installation instructions where applicable attesting that the following materials meet the requirements specified:
 - a. Fertilizer.
 - b. Seed.
 - c. Lime.

B. Soil Test Reports

1. Prior to ordering the topsoil, submit soil test report to the Engineer for review and approval. Do not order materials until approval has been obtained. Delivered materials shall closely match the approved samples.

C. Certificates

1. A manufacturer's Certificate of Compliance to the specifications shall be submitted by the manufacturer's with each shipment of each type of seed. These certificates shall include the guaranteed percentages of purity, weed content, and germination of the seed; the net

weight of seed; and date of shipment. No seed shall be sown until the Contractor has submitted these certificates.

D. Maintenance Manual

1. The Contractor shall submit a written manual prepared for the Owner that outlines a schedule for proper maintenance of the seeded and/or sodded lawns. This maintenance schedule should include timing and methods for mowing, watering, aeration, fertilization, liming, and other lawn maintenance operations.

E. Submittal Schedule

1. Before installation:
 - a. Manufacturer's product data for seed.
 - b. Soil test reports.
 - c. Seed certification.
 - d. Hydroseed mix.
2. After installation and before acceptance
 - a. Maintenance Manual.

1.4 QUALITY ASSURANCE

- A. All work shall be performed by personnel experienced in lawn installation under the full-time supervision of a qualified foreman.
- B. Work shall be coordinated with all other trades on site.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Deliver material to the site in original unopened packages, showing weight, manufacturer's name, and guaranteed analysis.
- B. Store materials in a manner that their effectiveness and usability will not be diminished or destroyed. Materials shall be uniform in composition, dry, unfrozen, and free flowing. Any material which has become caked or otherwise damaged or which does not meet specified requirements will be rejected.

1.6 INSPECTION FOR ACCEPTANCE

A. Conditions of Acceptance

1. Acceptance shall be given for the entire portion of the lawn areas. No partial acceptance will be given.

2. Lawns shall exhibit a uniform, thick, well-developed stand of grass. Lawn areas shall have not bare spots in excess of four inches in diameter and bare spots shall comprise no more than 2% of the total area of the lawn.
3. Lawn areas shall not exhibit signs of damage from erosion, washouts, gullies, or other causes.
4. Pavement surfaces and site improvements adjacent to lawn areas shall be clean and shall be free of spills or overspray from placing or handling of topsoil and seeding operations.

B. Inspection and Acceptance

1. Upon written request of the Contractor, the Engineer will inspect all lawn areas to determine completion of work. This request must be submitted at least five days prior to the anticipated inspection date.
2. If the lawn areas are not acceptable, the Engineer will indicate corrective measures to be taken, and shall extend the maintenance period as necessary for the completion of the work. The Contractor shall request a second inspection of the lawns after corrective measures have been accomplished. This process shall be repeated until the total lawn area being inspected is acceptable.
3. When the lawn areas are acceptable, a meeting of the Contractor and Owner's Representative will be arranged to accept the lawn work. A final inspection will be a part of this meeting. At this meeting, the Contractor shall be furnished with a written acceptance of the lawn section being approved. The Contractor shall turn over maintenance of the lawn areas to the Owner at this meeting.
4. Following the acceptance of lawns, the Contractor shall provide the Owner with access to all lawn areas as required for the Owner's maintenance work.

C. Site Cleanup

1. The Contractor shall leave the site in a clean and neat condition. Final acceptance will not be granted until this condition is met.

PART 2 - PRODUCTS

2.1 SOILS

- A. Topsoil shall conform to the requirements of Section 310000 - EARTHWORK.
- B. Testing shall confirm that the topsoil, obtained from the site or loam from off-site, contains not less than 4% nor more than 20% organic matter as determined by the loss on ignition of oven-dried samples. Test samples shall be oven-dried to a constant weight at a temperature of 230 degrees F. (+5 degrees F.) and certified test results shall be sent to the Engineer by the laboratory for approval.

2.2 SOIL CONDITIONING MATERIALS

- A. Lime: Lime shall be an approved agricultural limestone containing no less than 50% total carbonates, and 25% total magnesium with a neutralizing value of at least 100%. The material

shall be ground to such a fineness that 40% will pass through a No. 100 U.S. Standard Sieve, and 98% will pass through a No. 20 U.S. Standard Sieve. The lime shall be uniform in composition, dry and free flowing, and shall be delivered to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis. Any lime that becomes caked or otherwise damaged (making it unsuitable for use) will be rejected.

- B. Fertilizer: Fertilizer shall be a complete, standard product complying with state and federal fertilizer laws. The fertilizer shall be uniform in composition, dry and free flowing, and shall be delivered to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis, and submitted to the Engineer for approval.
- C. Fertilizer shall contain the following minimum percentage of available plant food by weight: 10% nitrogen, 10% phosphorus, 10% potash, in which 75% of the nitrogenous elements shall be derived from organic sources or ureaform.
- D. Exact percentages of fertilizer may vary in accordance with the soil test report.
- E. Any fertilizer that becomes caked or otherwise damaged (making it unsuitable for use) will be rejected.
- F. Superphosphate: Superphosphate shall be composed of finely ground phosphate rock, as commonly used for agricultural purposes, and containing not less than 20% available phosphoric acid. Superphosphate shall be delivered to the site in the original, unopened containers, each bearing the manufacturer's guaranteed analysis and submitted to the Engineer for approval. Any superphosphate that becomes caked or otherwise damaged (making it unsuitable for use) will be rejected.

2.3 WATER

- A. Water shall be furnished by the Contractor, suitable for irrigation, and free from ingredients harmful to plant life. Hoses and other watering equipment required for the work shall be furnished by the Contractor.

2.4 SEED

- A. Lawn Seed: Seed shall be: fresh, clean, and selected from the previous year's crop; shall have a maximum weed seed content of 1%; shall comply with applicable federal and state seed laws; and shall furnished and delivered premixed in unopened containers in the following proportions:

	Percent Proportion	Percent Germination Minimum	Percent Purity Minimum
1. For LAWNS:			
Creeping Red Fescue	50	85	95
Kentucky Bluegrass (improved varieties)	40	85	90
Manhattan Perennial Rye	10	90	95
2. For Field Grass:			
Creeping Red Fescue	60	85	95
Perennial Rye	25	90	95
Birdsfoot Trefoil	15	90	95
3. For Temporary Lawns:			
Annual Rye	60	90	95
Perennial Rye	40	90	95

B. No-Mow Natural Planting Mix

1. The No-Mow Natural Planting Mix shall contain: Big Bluestem, Little Bluestem, Switchgrass, Fox Sedge, Silky Wild Rye, Common Milkweed, Deertongue, Pennsylvania Smartweed, Silky Smooth Aster, Nodding Bur-marigold, Flat-top Aster.
2. The No-Mow Natural Planting Mix shall be the "New England Conservation/Wildlife Mix" as manufactured by New England Wetland Plants, Inc., 820 West Street, Amherst, MA 01002, (413) 256-1752 or approved equivalent.
3. Application rate shall be per manufacturer's specifications.

C. Detention Basin Planting Mix

1. The detention basin planting mix shall contain: Switchgrass, Virginia Wild Rye, Creeping Red Fescue, Fox Sedge, Creeping Bentgrass, Silky Wild Rye, Partridge Pea, Soft Rush, Flat-Top Aster, Nodding Bur-marigold, Joe-Pye Weed, Boneset, Grass-Leaved Goldenrod, and Grey Golden Rod.
2. The detention basin planting mix shall be the New England Erosion-Control/Restoration Mix (for Detention Basins and Moist Sites) as manufactured by New England Wetland Plants, Inc., 820 West Street, Amherst, MA 01002, (413) 256-1752 or approved equivalent.
3. Application rate shall be per manufacturer's specifications.

D. Wild Flower Seed

1. Wild flower seed shall contain: Bachelor's Button, Chicory, Lance Leaved Coreopsis, Baby's Breath, Baby Snapdragon, Scarlet Flax, Lewis Flax, Evening Primrose, Corn Poppy and Catchfly, or other varieties as approved by the Engineer.
2. Wild flower seed mix shall be as follows: 4 lbs. of wild flower seed shall be thoroughly mixed with 26 lbs. of Sheep Fescue (Festuca ovina) seed.

- 3. Submit a certificate from the supplier outlining the type and percentage of wild flower plants in the mix.

2.5 SOD

- A. Composition: Nursery grown sod composed of grasses grown from the following seed mixture:

<u>Grass Species</u>	<u>Proportion of Seed by Weight</u>
Chewing Fescue	25%
Creeping Fescue	25%
American Kentucky Bluegrass	20%
Touchdown Kentucky Bluegrass	15%
Challenger Kentucky Bluegrass	15%

- B. Characteristics: Sod shall be well-rooted turf, free from weeds, insect pests, and disease. Sod shall be machine-cut to a uniform soil thickness of 3/4 inch plus or minus, and to industry standard length and widths. Sod shall be harvested and replanted within 36 hours. Soil on sod pads shall be kept moist at all times.

2.6 MULCH

- A. Wood Cellulose Fiber Mulch

- 1. Mulch to cover hydroseeded areas shall be fiber-processed from whole wood chips manufactured specifically for standard hydraulic mulching equipment. Fiber shall not be produced from recycled material such as sawdust, paper, or cardboard.
- 2. Moisture content shall not exceed 10%, plus or minus 3%, as defined by the pulp and paper industry standards. Fiber shall have a water holding capacity of not less than 900 grams of water per 100 grams fiber.
- 3. Mulch shall disperse into a uniform slurry when mixed with water. Mulch shall be nontoxic to plant life or animal life.
- 4. Mulch shall contain a non-petroleum based tackifier and a green dye for visual monitoring during application, but non-injurious to plant growth.

2.7 EROSION CONTROL MATTING FOR SLOPED AREAS

- A. Matting for erosion control shall be provided on all slopes of 1 foot rise to 2 feet and steeper and shall consist of undyed and unbleached smolder resistant jute yarn woven into a uniform, open, plain weave mesh. Jute matting shall be furnished in rolled strips and shall conform to the following:

Width: 48 inches, plus or minus one inch.
78 warp ends per width of cloth.

41 weft ends per yard.

Weight: To average between 1.22 lbs. and 1.80 lbs. per linear yard.

Tolerance: plus or minus 5%

- B. Stakes for pegging erosion control matting shall be sound hardwood approximately 1 inch by 3 inches. Stakes shall be free from insects and fungi and capable of remaining intact in the ground for at least two years.

2.8 HYDROSEED MIX

- A. The Contractor shall submit a certified statement as to number of lbs. of fertilizer, amounts and types of grass seed, and processed fiber, per 100 gallons of water.

PART 3 - EXECUTION

3.1 SEED AND SOD BED PREPARATION

- A. Grade all lawn areas to finish grades as indicated on the Drawings. When no grades are shown, areas shall have a smooth and continual grade between existing or fixed controls and elevations shown on Drawings. Roll, scarify, and rake as required to obtain uniform, even lawn surfaces. All lawn areas shall slope to drain. Finish grades shall be approved by the Engineer.
- B. If no new topsoil is required, thoroughly loosen soil in areas to be seeded or sodded to a minimum depth of 6 inches with approved power or hand equipment. Remove rocks, debris, clods and other undesirable substances, and maintain grading and drainage patterns.
- C. When topsoil is required, place topsoil on previously scarified subsoil to a minimum depth of 6 inches. Subsoil shall be cleaned of debris and stones larger than 2 inches prior to topsoil spreading.
- D. Apply fertilizer, superphosphate, and lime, at rates recommended by the testing agency and approved by the Engineer. Thoroughly and evenly incorporate fertilizer and lime into the soil to a depth of 3 inches by discing or other approved methods. In areas inaccessible to power equipment, fertilizer and lime shall be incorporated into the soil by manual methods. At existing trees, the depth shall be adjusted to avoid disturbance of the tree roots.
- E. Seeding and sodding shall be done immediately after final grading, provided the bed has remained in a good, friable condition, and has not become muddy or compacted. Any undulations or irregularities in the surface resulting from fertilizing, liming, tilling, or other causes, shall be re-graded prior to seeding and sodding. The surface shall be free of stones, cleared of all trash, debris, roots, brush, wire, grade stakes, and other objects that would interfere with establishment of lawn and lawn maintenance operations.

3.2 HYDROSEED BED PREPARATION

- A. Prepare seed bed for hydroseeding the same as for seeding and sodding, but do not incorporate fertilizer into the top 3 inches of topsoil.

- B. Hydroseeding shall be applied with a spray machine designed for this purpose and approved by the Engineer.

3.3 SEEDING

- A. Seeding shall be done between April 1 to June 1, or between August 15 to October 15, except as otherwise authorized in writing by the Engineer.
- B. All disturbed areas not covered by buildings, paving, or otherwise developed, shall be seeded.
- C. Seeding shall not be done during windy or inclement weather.

3.4 MANUAL SEEDING

- A. Sow lawn seed uniformly with an approved mechanical seeder at the rate of 5 lbs. per 1,000 square feet. Culti-packer or approved similar equipment may be used to cover the seed and to form the seed bed in one operation. In areas inaccessible to the Culti-packer, the seeded ground shall be lightly raked with flexible rakes and rolled with a water ballast roller. Seeding shall be done in two directions at right angles to each other.
- B. In areas having slopes 3:1 or steeper, and in drainage swales, the Contractor shall carry out a separate overseeding operation immediately after sowing the specified seed mix. The overseeding shall be sown at the rate of 3 lbs. per 1,000 square feet. Seeded areas requiring additional erosion control shall be covered with an approved, biodegradable erosion control fabric and the fabric firmly anchored in place.
- C. The wild flower seed mix shall be applied uniformly over the designated area at a rate of 30 lbs. per acre. The seed shall be lightly raked to ensure proper soil-seed contact and kept damp until the plants have become established.

3.5 HYDROSEEDING

- A. Designated areas shall be hydroseeded only after written approval of the finished grading by the Engineer.
- B. Fertilizer shall be added to the hydroseeding slurry at the rate of 5 lbs. per 1,000 square feet.
- C. Seed shall be added to the hydroseeding slurry at the rate of 75 lbs. per acre.
- D. Wood cellulose fiber mulch shall be added to the hydroseeding slurry at the rate of 2 tons per acre.
- E. A mobile tank with a capacity of at least 500 gallons shall be filled with water, and the required amounts of seed, wood cellulose mulch, and fertilizer. The slurry shall be thoroughly mixed by means of positive agitation in the tank. The slurry shall be applied by means of a centrifugal pump using the turret or hose application technique from the mobile tank. The hose or turret shall be equipped with a seeding nozzle of a proper design to ensure even

distribution of the solution over the area to be seeded and shall be operated by a person thoroughly familiar with this type of seeding operation.

3.6 SODDING

- A. Before sod is laid, and after all grading is complete, the loam bed shall be lightly raked with a fine toothed harrow or hand rake. The loam bed shall be moist, but not wet, prior to laying the sod. Sod shall not be laid on soil that is dry and powdery.
- B. The first row of sod shall be laid in a straight line with subsequent rows placed parallel to, and tightly against, each other. Lateral joints shall be staggered to promote more uniform growth and strength. Care shall be exercised to ensure that the sod is not stretched or overlapped, and that all joints are butted tight to prevent voids. The Contractor shall rake sufficient screened loam into the sod to fill all small voids. All large voids shall be filled with sod plugs.
- C. Sod shall be laid with staggered joints and secured by pegging on slopes greater than 25%.
- D. Sod shall be placed from April 1 to June 1 and August 15 to October 15, provided that the ground is not frozen.
- E. Sod shall be harvested, delivered, and transplanted onto the site within a period of 36 hours.
- F. Sod shall be watered immediately, during and after installation, to a sufficient depth to thoroughly wet the underside of the new sod and the soil immediately below. The Contractor shall have adequate water available on the site prior to and during installation of sod.

3.7 MAINTENANCE AND PROTECTION

- A. Maintenance of seeded and sodded areas shall begin immediately after installation. Maintenance includes watering, weeding, mowing and edging, reseeding, replacement of dead sod, disease and insect pest control, repair of all erosion damage, and any other procedures consistent with good horticultural practice, required to ensure normal, vigorous, and healthy growth. Maintenance shall continue until final acceptance of the work.
- B. Maintenance shall also include all temporary protection fences, barriers, signs, and all other work incidental to proper maintenance.
- C. Scattered bare spots will be allowed up to a maximum of 2% of any lawn area, provided none are larger than 72 square inches. After the grass has sprouted, all bare areas shall be re-seeded or re-sodded repeatedly until all areas are covered with a satisfactory growth of grass. At the time of the first cutting, lawn should be mowed not less than 2-1/2 inches high. Sod shall be maintained between 1-3/4 and 2-1/2 inches high. Do not remove more than one-third of the grass blade. All lawns shall receive at least three mowings before acceptance.
- D. The seeded and sodded areas shall be maintained in a continuous moist condition, satisfactory for good germination and growth of grass until acceptance.

- E. Six weeks after the seeded areas have become established, fertilizer shall be applied over the entire area. Sod shall be fertilized at the time of the second mowing.

END OF SECTION 329220

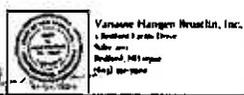
STATE OF NEW HAMPSHIRE
 Department of Administrative Services
 DIVISION OF PUBLIC WORKS DESIGN & CONSTRUCTION

CONCORD TUNNEL SYSTEM REPAIR ABANDONMENT PLAN

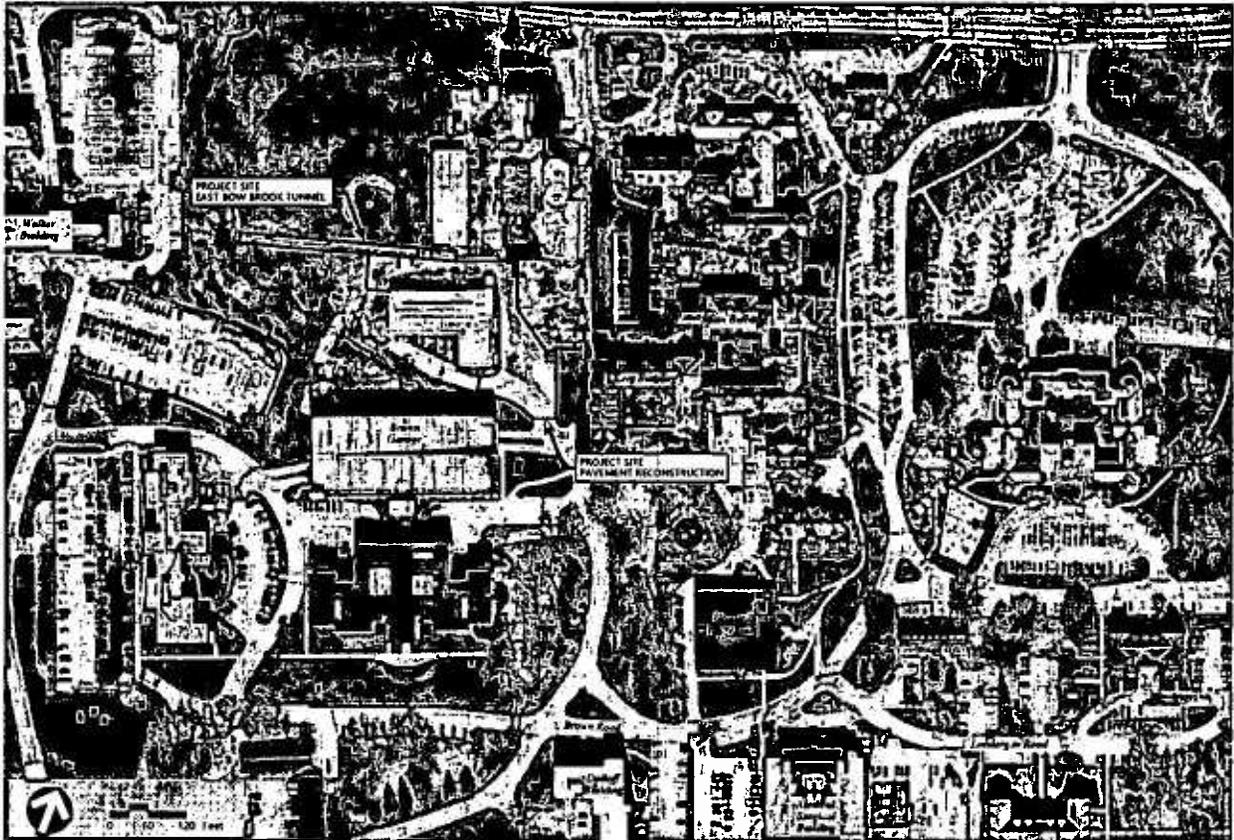
PLEASANT STREET
 CONCORD, NH 03301

DPW Project 81235 Contract C
 1776

BID DATE: 08/20/2024



Project No: 81235-001 Item 250 Contract No: 81235-001 Project Title: 81235-001	
CONTRACTOR'S REPRESENTATIVE Name: <u> </u> Title: <u> </u>	
OWNER'S REPRESENTATIVE Name: <u> </u> Title: <u> </u>	
PROJECT LOCATION District: <u> </u>	
REVISIONS DATE: <u> </u> BY: <u> </u> DATE: <u> </u> BY: <u> </u> DATE: <u> </u> BY: <u> </u>	
PROJECT NAME Concord Tunnel System Repair Abandonment Plan PROJECT NUMBER 81235-C	
ISSUE DATE 08/20/2024	
SHEET NUMBER C-00.1	



PROJECT LOCATION PLAN



7 Pleasant Street, PO Box 453, Room 258
 Concord, New Hampshire 03301
 603-271-1016 603-271-1013

Concord Tunnel System Repair
 Abandonment Plan
 NHDPW Project #81235-C

Pleasant Street
 Concord, NH 03301

Construction Report No. 2014

Location Plan





7 Essex Drive PO Box 632 Acorn 210
Concord, New Hampshire 03301
603-271-3324 603-271-1513

Concord Tunnel System Repair
Abandonment Plan
NHDPW Project #81235-C
Pinehurst Street
Concord, NH 03301

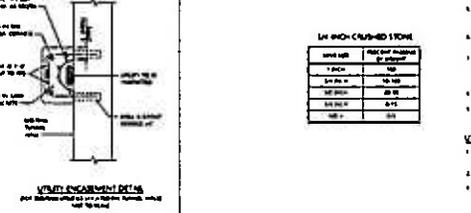
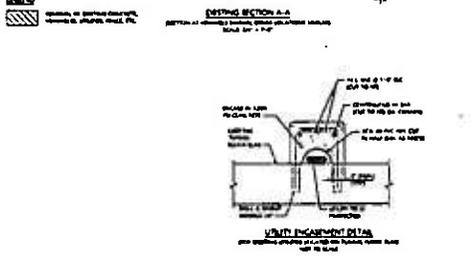
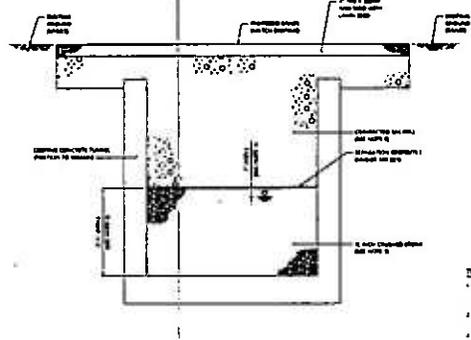
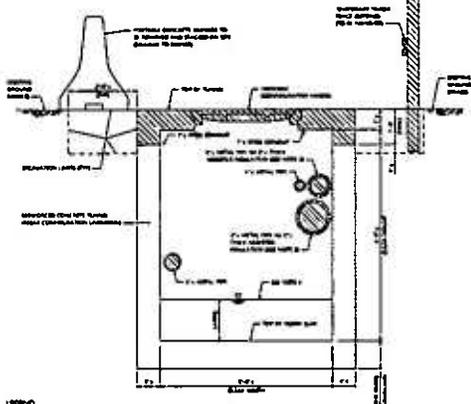
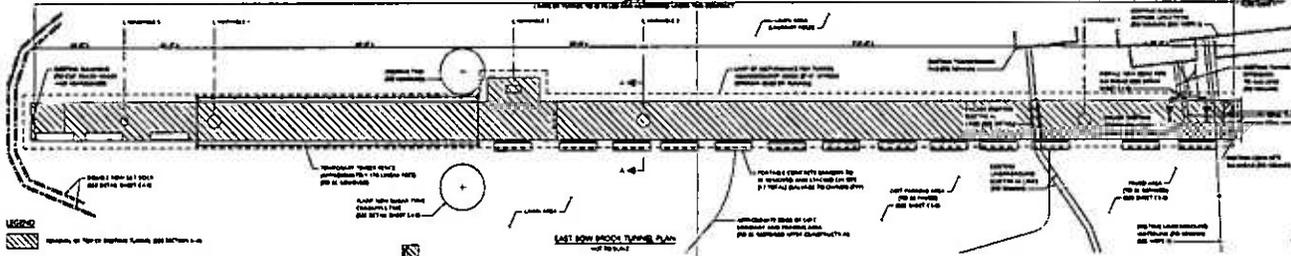
Construction August 28, 2014

Details (1 of 2)



TUNNEL PLAN NOTES

1. Tunnel system shall be abandoned with walls and ceiling in place as a permanent structure.
2. Location of existing and proposed air circulation.



1/4" INCH CRUSHED STONE

SIZE (IN)	PERCENT PASSED BY SIEVE
NO. 10	100
NO. 20	95
NO. 40	85
NO. 60	75
NO. 100	60

TUNNEL ABANDONMENT NOTES

1. Walls to be left in place. Construction shall be completed for the existing tunnel system. Abandonment shall include removal of all equipment, materials, and debris from the tunnel. The tunnel shall be left in place as a permanent structure.
2. Construction of proposed tunnel shall be completed for the tunnel. The tunnel shall be left in place as a permanent structure.
3. Existing construction, walls and ceiling, shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.
4. The tunnel shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.
5. The tunnel shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.
6. Existing construction, walls and ceiling, shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.
7. The tunnel shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.
8. Existing construction, walls and ceiling, shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.
9. The tunnel shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.
10. Existing construction, walls and ceiling, shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.

VENTING ENCASEMENT NOTES

1. The tunnel shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.
2. The tunnel shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.
3. Existing construction, walls and ceiling, shall be left in place as a permanent structure. The tunnel shall be left in place as a permanent structure.

State of New Hampshire

Department of State

CERTIFICATE

I, David M. Scanlan, Secretary of State of the State of New Hampshire, do hereby certify that K.J. FISHER AND SONS L.L.C. is a New Hampshire Limited Liability Company registered to transact business in New Hampshire on March 18, 2004. I further certify that all fees and documents required by the Secretary of State's office have been received and is in good standing as far as this office is concerned.

Business ID: 469364

Certificate Number: 0006778919



IN TESTIMONY WHEREOF,

I hereto set my hand and cause to be affixed
the Seal of the State of New Hampshire,
this 18th day of September A.D. 2024.

A handwritten signature in black ink, appearing to read "David M. Scanlan".

David M. Scanlan
Secretary of State

(Limited partnership, Limited liability professional partnership or LLC)

Certificate of Authority # 3

Limited Partnership or LLC Certification of Authority

I, Barbara A Fisher, hereby certify that I am the sole Partner, Member or
(Name)

Manager and the sole officer of K J Fisher & Sons, LLC a limited liability partnership
(Name of Partnership or LLC)

under RSA 304-B, a limited liability professional partnership under RSA 304-D, or a limited liability company under RSA 304-C.

I certify that I am authorized to bind the partnership or LLC. I further certify that it is understood that the State of New Hampshire will rely on this certificate as evidence that the person listed above currently occupies the position indicated and that they have full authority to bind the partnership or LLC and that this authorization shall remain valid for thirty (30) days from the date of this Corporate Resolution.

DATED: 10/15/2024

ATTEST: Barbara A Fisher, Managing Member
(Name & Title)

State of New Hampshire, County of Rockingham. This document was signed before me on September 18, 2024

by Barbara A. Fisher

[Signature]
Notary Signature

Donald A Fisher
NOTARY PUBLIC
State of New Hampshire
My Commission Expires 6/29/2027

My commission expires



KJFISHE-01

KATHY1

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
10/28/2024

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

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

PRODUCER The Davis Agency, LLC 24 Warren Street Concord, NH 03301	CONTACT NAME: Kathleen Pettit PHONE (A/C, No, Ext): (603) 715-8684 FAX (A/C, No): E-MAIL ADDRESS: kathy@thedavisagency.com													
	<table border="1"> <tr> <th>INSURER(S) AFFORDING COVERAGE</th> <th>NAIC #</th> </tr> <tr> <td>INSURER A: Acadia Insurance Company</td> <td>31325</td> </tr> <tr> <td>INSURER B:</td> <td></td> </tr> <tr> <td>INSURER C:</td> <td></td> </tr> <tr> <td>INSURER D:</td> <td></td> </tr> <tr> <td>INSURER E:</td> <td></td> </tr> <tr> <td>INSURER F:</td> <td></td> </tr> </table>	INSURER(S) AFFORDING COVERAGE	NAIC #	INSURER A: Acadia Insurance Company	31325	INSURER B:		INSURER C:		INSURER D:		INSURER E:		INSURER F:
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INSURER D:														
INSURER E:														
INSURER F:														
INSURED State of New Hampshire, Dept. of Administrative Services Bureau of Purchase & Property 25 Capitol Street, Room 102 Concord, NH 03301														

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

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS					
A	COMMERCIAL GENERAL LIABILITY	X		OCP5619764-10	10/28/2024	10/28/2025	EACH OCCURRENCE \$ 2,000,000					
	<input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR						DAMAGE TO RENTED PREMISES (Ea occurrence) \$					
	<input checked="" type="checkbox"/> Owners & Contractors						MED EXP (Any one person) \$					
	<input checked="" type="checkbox"/> Protective Liab.						PERSONAL & ADV INJURY \$					
	GEN'L AGGREGATE LIMIT APPLIES PER:						GENERAL AGGREGATE \$ 3,000,000					
	<input checked="" type="checkbox"/> POLICY <input type="checkbox"/> PROJECT <input type="checkbox"/> LOC						PRODUCTS - COMP/OP AGG \$					
	OTHER:						\$					
	AUTOMOBILE LIABILITY											COMBINED SINGLE LIMIT (Ea accident) \$
	<input type="checkbox"/> ANY AUTO OWNED AUTOS ONLY						<input type="checkbox"/> SCHEDULED AUTOS					BODILY INJURY (Per person) \$
	<input type="checkbox"/> HIRED AUTOS ONLY						<input type="checkbox"/> NON-OWNED AUTOS ONLY					BODILY INJURY (Per accident) \$
						PROPERTY DAMAGE (Per accident) \$						
						\$						
	UMBRELLA LIAB						EACH OCCURRENCE \$					
	EXCESS LIAB						AGGREGATE \$					
	DED						\$					
	RETENTION \$						\$					
	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY						PER STATUTE <input type="checkbox"/> OTH-ER <input type="checkbox"/>					
	ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH)						E.L. EACH ACCIDENT \$					
	If yes, describe under DESCRIPTION OF OPERATIONS below						E.L. DISEASE - EA EMPLOYEE \$					
							E.L. DISEASE - POLICY LIMIT \$					

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
RE: Concord Tunnel System Repair Abandonment - 129 Pleasant Street, Concord, NH (2955-25).

CERTIFICATE HOLDER State of New Hampshire, Dept. of Administrative Services Bureau of Purchase & Property 25 Capitol Street, Room 102 Concord, NH 03301	CANCELLATION SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS. AUTHORIZED REPRESENTATIVE 
--	---



State of New Hampshire

DEPARTMENT OF ADMINISTRATIVE SERVICES

25 Capitol Street

Concord, New Hampshire 03301

(603) 271-3201 Office@das.nh.gov

Charles M. Arlinghaus
Commissioner

Catherine A. Keane
Deputy Commissioner

Sheri L. Rockburn
Assistant Commissioner

December 4, 2024

His Excellency, Governor Christopher T. Sununu
and the Honorable Council
State House
Concord, New Hampshire 03301

REQUESTED ACTION

Authorize the Department of Administrative Services to enter into a new contract with K.J. Fisher and Sons L.L.C. (VC#165249), Deerfield, NH, in an amount up to and not to exceed \$478,438.00 for Concord tunnel system repair abandonment services at the New Hampshire Department of Administrative Services tunnel system on Pleasant Street, effective upon Governor and Executive Council approval through June 13, 2025. **Funding is 100% Capital Funds.**

Further authorize the amount of \$.34,000.00 to be approved for payment to the Department of Administrative Services, Division of Public Works Design and Construction (VC#311152), for engineering and project management services provided. **Funding is 100% Department of Administrative Services.**

Funds are available in the following accounts for Fiscal Year 2025:

	<u>FY 2025</u>
030-014-1490-92750000 – Statewide General Funds	
034-500162 Repair/Renovation Buildings	\$353,438.00
030-014-1490-92750000 – Statewide General Funds	
034-500162 Repair/Renovation Buildings	<u>\$125,000.00</u>
Contractor Price Limitation Total	\$478,438.00
030-014-1490-92750000 – Statewide General Funds	
034-500162 Repair/Renovation Buildings – DPW Fees	<u>\$34,000.00</u>
Project Total	\$512,438.00

EXPLANATION

At the request of the Department of Administrative Services (DAS) and the Division of Public Works (DPW), the Department of Administrative Services (DAS), through the Bureau of Purchase and Property (BoPP), issued request for bid (RFB) 2955-25 on September 6, 2024, for Concord Tunnel System Repair Abandonment Services at the New Hampshire Tunnel System on Pleasant Street in Concord, NH, with responses due on October 4, 2024. This bid reached two hundred ninety-five (295) vendors through the NIGP registry with an additional nineteen (19) directly sourced. There were three compliant responses received with the lowest being from K.J. Fisher and Sons L.L.C.

Upon approval this contract shall facilitate the required repairs of the tunnel system in Concord, NH. The full scope of this project represents a requested price limitation up to and not to exceed \$478,438.00 to perform tunnel system repair abandonment services as defined by the scope of work under the oversight of the DPW. The price limitation includes an allowance, at the discretion of the agency, of \$125,000.00 for any unforeseen issues. Vendor has submitted all required and certified payment and performance bond paperwork. The payment and performance bond is certified at \$478,438.00 or 100% of the project cost. The total cost, including DPW fees, is \$512,438.00 against an original projected budget estimate of \$620,000.00. This represents a cost savings to the State of \$107,562.00 or 17.35%.

Contract financials	
Vendor project bid amount	\$353,438.00
Vendor project allowance	\$125,000.00
Requested project price limitation	\$478,438.00
DPW fees	\$34,000.00
Grand total (vendor bid and project allowance)	\$512,438.00
Original project estimate	\$620,000.00
Cost savings	\$107,562.00

Based on the foregoing, I am respectfully recommending approval of the contract with K.J. Fisher and Sons L.L.C.

Respectfully submitted,



Charles M. Arlinghaus
Commissioner