STATE OF NEW HAMPSHIRE
DEPARTMENT OF NATURAL AND CULTURAL RESOURCES
DIVISION OF PARKS AND RECREATION
PLANNING AND DEVELOPMENT
172 Pembroke Road
Concord, NH 03302-1856
Tel. (603) 271-2606 Fax (603) 271-2629

PROJECT MANUAL

Project No.: ARP 2107

Rye Harbor State Park – Ragged Neck

Toilet Building Interior Renovations

1730 Ocean Boulevard, Rye NH 03870

10/15/2021

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INVITATION TO BID

TOILET BUILDING INTERIOR RENOVATIONS
ARP 2107
RYE HARBOR STATE PARK – RAGGED NECK

1. Sealed Bids: Proposals for a General Contract for the Construction of the above project will be received by the Owner until 2:00 P.M. prevailing time on Tuesday, November 16, 2021, at which time they will be publicly opened and read aloud. All Bids shall be made out only on the form included in the specifications package and delivered in sealed, labeled envelope marked: Bid Proposal for Ragged Neck Toilet Building Interior Renovations and deposited in the bid box located at the reception desk of the Department of Natural and Cultural Resources (DNCR) offices at 172 Pembroke Road in Concord, NH. Bidders are invited to attend the Bid opening. Bids received after the above stated time and date will not be accepted.

2. Technical Questions: Questions regarding the Bidding Documents shall be referred to: Department of Natural and Cultural Resources, 172 Pembroke Road, Concord New Hampshire, 03301, Telephone (603) 271-2606, attention Scott Coruth, Architect.

3. Documents: Bidding Documents may be examined at the Planning and Development Section of DNCR, 172 Pembroke Road, Concord NH and at the following locations:

   Construction Summary of New Hampshire Inc.: 734 Chestnut Street, Manchester, New Hampshire 03104, (603) 627-8856, www.constructionsummary.com

   Infinite Imaging: 933 Islington Street, Portsmouth, NH 03801, (800) 581-2712 or (603) 436-3030, www.planroom.infiniteimaging.com

   McGraw-Hill Construction: www.construction.com

   Signature Digital Imaging: 45 Londonderry Turnpike, Hooksett, NH 03106, (603) 624-4025, www.signaturenh.com

   Works in Progress: 20 Farrell Street, Suite 103, South Burlington, VT 05403. (800) 286 3633 or (802) 658-3797

   New Hampshire Department of Administrative Services Bureau of Purchase and Property Website: http://admin.state.nh.us/purchasing/vendorresources.asp

   New Hampshire State Parks Website: www.nhstateparks.org under the News & Events tab improvement projects sub tab

4. Qualifications: All companies, corporations, and trade names bidding must be registered and have a Certificate of Existence from the New Hampshire Secretary of State's Office, Corporate Division (telephone 603-271-3244) in order to do business with the State of New Hampshire

5. Bid Security: A Bid Bond in the amount of five (5%) percent of the total amount of the lump sum bid price shall accompany each Bid Proposal in accordance with the Instructions to Bidders.

6. Bonds: Bidders shall be required to provide the Owner with financial responsibility as security for the completion of the contract in accordance with the plans, specifications and contract documents, in the form of a Performance and Payment Bond in the amount of One Hundred (100%) Percent of the contract award, if the contract award is seventy-five thousand dollars ($75,000) or more, the cost of which shall be a part of the Base Bid. The form of bond and the surety shall be acceptable to the Commissioner. No contract bond shall be required on contract awards of less than seventy-five thousand dollars ($75,000).

7. Inspection of Site: A pre-bid tour of the existing building/site will be conducted by the Owner and Architect on November 3, 2021 at 10:00 a.m. Attendance by Bidders shall be considered mandatory.

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

END OF INVITATION TO BID

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INSTRUCTIONS TO BIDDERS

DEFINITIONS

1. Definitions set forth in the "General Conditions" or in other Contract Documents are applicable to the Bidding Documents.

2. Bidding Documents include the Bidding Requirements and the proposed Contract Documents. The Bidding Requirements include the Invitation to Bid, Instructions to Bidders, the Proposal Form and other sample Bidding and Contract forms.

3. Addenda are written or graphic instruments issued prior to the execution of the Contract. They modify or interpret the Bidding Documents by additions, deletions, clarifications, or corrections. Addenda will become part of the Contract Documents when the Construction Contract is executed.

4. A Bid is a complete and properly signed Proposal to do the Work or designated portion thereof for the sums stipulated therein, submitted in accordance with the Bidding Documents.

5. The Base Bid is the sum stated in the Bid for which the Bidder offers to perform the Work described in the Bidding Documents as the base, to which Work may be added or deducted for sums stated in Alternate Bids.

6. An Alternate Bid (or Alternate) is an amount stated in the Bid to be added to or deducted from the amount of the Base Bid if the corresponding change in Work, as described in the Bidding Documents, is accepted.

7. A Unit Price is an amount stated in the Bid as a possible price per unit of measurement for materials, equipment, services or a portion of the Work as described in Bidding Documents. The choice of using Unit Prices, or an alternative method of payment, for additional Work shall be left solely to the Owner's discretion.

8. A Bidder is a person or entity who submits a Bid.

9. A Sub-Bidder is a person or entity who submits a bid to a Bidder for materials, equipment or labor for a portion of the Work.

BIDDER'S REPRESENTATION

1. Each Bidder by making his Bid represents that he has examined and understands the Bidding Documents, that the Bidding Documents are adequate to produce the required results, and that his Bid is in accordance therewith.

2. Each Bidder by making his Bid represents that he has visited and thoroughly inspected the existing building and familiarized himself with the local conditions under which the Work will be performed. Bidders are encouraged to make any and all inspections and tests as they feel necessary to achieve such familiarization prior to submitting Bids. Such inspections and tests shall be conducted at times mutually acceptable to the Owner and Bidder. Unless waived by the Owner, Bidders shall make repairs following their testing, as necessary to restore tested areas to pre-testing condition. Should a Bidder conclude that time or other factor(s) prohibits him from performing sufficient tests, he shall so notify the Owner, in writing, prior to the receipt of Bids.

3. The submission of a Bid will be construed as conclusive evidence that the Bidder has made all such examinations and inspections necessary for a complete and proper assessment of the Work required, and that the Bidder has included in his Bid a sum sufficient to cover the cost of all items necessary to perform the Work as set forth in the proposed Contract Documents. No allowance will be made to a Bidder because of lack of such examination, inspection or knowledge.

4. Each Bidder by making his Bid represents that he has assessed the conditions of the current construction marketplace, and verified that an adequate, experienced workforce is available to suitably man the Work of this Project, and complete it in a timely fashion.

5. Each Bidder is assumed to have made himself familiar with all Federal, State and Local laws, ordinances and regulations which in any manner affect those engaged in or upon the Work, or in any way affect those engaged or employed in the Work, and no plea of misunderstanding will be considered on account of ignorance thereof. The Contractor shall comply with all taxes, fees and assessments as levied by Federal, State and Local authorities.

BIDDING PROCEDURES

1. All Bids must be prepared on the Proposal forms provided in the Specification and submitted in duplicate copies in accordance with the Notice to Bidders and Instructions to Bidders. **Any bids submitted that are not on the official bid proposal forms will not be accepted.**

2. A Bid shall be invalid if it has not been deposited at the designated location prior to the time and date in the Invitation to Bid, or prior to any extension thereof issued to the Bidders.

3. Each copy of a Bid shall be signed by the person or persons legally authorized to bind the Bidder to a Contract. A Bid by a corporation shall further give the state of incorporation and have a corporate seal affixed.

4. Unless otherwise provided in any supplement to these Instructions to Bidders, no Bidder shall modify, withdraw or cancel his Bid or any part thereof for Sixty (60) days after the time designated for the receipt of Bids in the Notice to Bidders.

5. Prior to the receipt of Bids, Addenda will be e-mailed, mailed or delivered to each person or firm recorded by the Owner as having received the Bidding Documents and will be available for inspection wherever the Bidding Documents are kept available for that purpose.

BID SECURITY

1. Bid Security shall be made payable to the Owner, in the amount of not less than five percent (5%) of the Bid Sum and shall be attached to the Bid. Security shall be either a certified check made payable to the "Treasurer, State of New Hampshire," or Bid Bond issued by surety licensed to conduct business in the State of New Hampshire. The successful Bidder's security will be retained until he has signed the Agreement or Contract and furnished the required Performance and Payment Bonds and Certificates of Insurance. The Owner reserves the right to retain the Security of the next two lowest Bidders until the low Bidder enters into a Contract, or until Sixty (60) days after Bid opening, whichever occurs first. Bid Security of all other Bidders will be returned as soon as practicable. If any Bidder refuses to enter into an Agreement or Contract, the Owner will retain his Bid Security as liquidated damages, but not as a penalty.

EXAMINATION OF BIDDING DOCUMENTS

1. Each Bidder shall examine the Bidding Documents carefully and, not later than seven (7) days prior to the date of receipt of Bids, shall make written request to the Owner for interpretation or correction of any ambiguity, inconsistency or error therein, which he may discover. Any interpretation or correction will be issued as an Addendum by the Owner. Only a written interpretation or correction by Addendum will be binding. No Bidder shall rely upon any interpretation or correction given by any other method. Bidders are encouraged to direct any questions which may arise to the Owner, in order to provide necessary clarifications prior to the receipt of Bids. Bidders shall promptly notify the Owner of any ambiguity, inconsistency or error which they may discover upon examination of the Bidding Documents, or the existing building, site or local conditions. Should a Bidder fail to notify the Owner of errors, discrepancies or contradictions, he shall be assumed to have bid the more expensive alternative.

SUBSTITUTIONS

1. Each Bidder represents that his Bid is based upon the materials and equipment described in the Bidding Documents. Where the language "or approved equal" is used in the Bidding Documents, it is intended to require that all such materials and equipment shall be submitted as required by these Instructions to Bidders, and approved by the Owner prior to the receipt of Bids.

2. No substitution will be considered unless written request has been submitted to the Owner for approval at least seven (7) days prior to the date for receipt of Bids. Each such request shall include a complete description of the proposed substitute, the name of the material or equipment for which it is to be substituted, drawings, cuts, performance and test data and any other data or information necessary for a complete evaluation. A statement identifying changes in other materials, equipment or other portions of the Work that incorporation of the proposed substitution would require shall also be included.

3. If a Bidder proposes to use a material which, while suitable for the intended use, deviates in any way from the detailed requirements of the Contract Documents, he shall inform the Owner in writing of the nature of such deviations at the time the material is submitted for approval. It shall be the responsibility of the Bidder to notify the Owner, in writing, of the presence of Asbestos or

any other hazardous materials in any proposed substitution. Such written notice shall be in the form of a cover letter attached to the related documents.

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

5. In requesting approval of substitutions, a Bidder represents that he will provide the same warranty and/or guarantee for the substitution that he would for that specified.

6. The Contract Documents are intended to produce a building and site improvements of consistent character and quality of design. The Owner shall judge the design and appearance of proposed substitutes on the basis of their suitability in relationship to the overall design of the project, as well as for their intrinsic merits. The Owner will not approve as equal to materials specified proposed substitutions which, in his opinion, would be out of character, obtrusive, or otherwise inconsistent with the character or quality of design of the project.

7. The Contractor shall be solely responsible for coordinating the installation of accepted substitutions, making such changes as may be required for the Work to be complete in all respects. Any additional cost, or any loss or damage arising from the substitution of any material or any method for those originally specified shall be borne by the Contractor, notwithstanding approval or acceptance of such substitution by the Owner, unless such substitution was made at the written request or direction of the Owner.

8. The burden of proof of the merit of a proposed substitution is upon the proposer. Approval of a proposed substitution is valid only upon issuance by the Owner in written form, and the Owner's decision of approval or disapproval of a proposed substitution shall be considered final.

DETERMINATION OF RIGHT TO DO BUSINESS WITH STATE OF NEW HAMPSHIRE

1. If selected as the low bidder, the bidder must be registered and have a certificate of existence from the Secretary of State, Corporate Division (telephone 603-271-3244) in order to do business with the State of New Hampshire.

PROPOSAL SELECTION

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

CONTRACTORS QUALIFICATIONS

1. Upon the Owner's request, the successful bidder shall provide evidence that they have been successfully performing this type, scale, and quality of Work for a minimum of five (5) years. Upon request by the Owner, a comprehensive list of all similar projects worked on in the past two (2) years by the Contractor shall be submitted along with contact information for three (3) references or owners representatives involved with three (3) different projects completed by the Contractor.

EXECUTION OF AGREEMENT

1. Execution and Approval of Agreement: The Agreement shall be signed by the successful Bidder and returned, together with Bonds, if applicable, within fifteen (15) Days after the Agreement has been mailed or otherwise delivered to the Bidder. No Agreement shall be considered as in effect until it has been fully executed by all Parties thereto and, when the Price Limitation is more than $10,000, the Agreement has been concurred in by Governor and Council.

2. Failure to Execute Agreement: Failure to execute the Agreement within fifteen (15) Days after the Agreement has been mailed or otherwise delivered to the successful Bidder shall be just cause for the cancellation of the bid and the forfeiture of the Bid Security which shall become the property of the Department, not as a penalty, but in liquidation of damages sustained. Award of the Contract may then be made to the next lowest Bidder, or the Work may be re-advertised as the Commissioner of the Department of Natural and Cultural Resources may decide.

PRECONSTRUCTION CONFERENCE

1. Either before or soon after the actual award of the Contract (but in any event prior to the start of construction), the Contractor or his representative and his principal subcontractors shall attend a preconstruction conference with representatives of the Owner. The conference will serve to acquaint the participants with the general plan of contract administration and requirements under which the construction operation is to proceed.

END OF INSTRUCTIONS TO BIDDERS

SECTION 00 41 00

BID PROPOSAL FORM

Project No. **ARP #2107**

PROJECT: **Ragged Neck – Toilet Building Interior Renovations**
1730 Ocean Boulevard, Rye NH 03870

DATE BID OPENING: **November 16, 2021** at 2:00 pm at DNCR's office at 172 Pembroke Road, Concord, NH

START DATE: **February 22, 2022**

COMPLETION DATE: **June 17, 2022**

Sealed bid proposals for the above project will be accepted until **2:00 p.m., November 16, 2021**. Bids may be deposited in the bid box at DNCR's offices in Concord or mailed to the attention of Scott Coruth, Architect, Department of Natural and Cultural Resources (DNCR), 172 Pembroke Road, Concord NH 03301. Please note on the outside of the sealed envelope: Bid Proposal for **Ragged Neck – Toilet Building Interior Renovations**.

DATE: _____

PROPOSAL OF: _____

GRAND TOTAL / LUMP SUM BASE BID (A+B): _____

PROPOSAL

Proposal of...

_____
(name)

_____
(address)

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

Project: **ARP #2107** **Ragged Neck – Toilet Building Interior Renovations**
1730 Ocean Boulevard, Rye NH 03870

Commissioner
Department of Natural and Cultural Resources
172 Pembroke Road
Concord, N.H. 03302-1856

Commissioner:

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

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

It is further proposed:

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

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

Enclosed, herewith, find certified check or bid bond in the amount of 5% of the total amount of the Lump Sum Price made payable to the "Treasurer, State of New Hampshire" as a proposal guarantee which is understood, will be forfeited in the event the form of contract is not executed, if awarded to the undersigned. Note: Personal checks will not be accepted as a proposal guarantee.

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

Addendum #1 dated_____

Addendum #2 dated_____

Addendum #3 dated_____

Dated_____

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

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

a. Contractor's costs for products, delivery, installation, labor, insurance, payroll, taxes, equipment rental, overhead and profit will be included in Change Orders authorizing expenditure of funds from this Allowance. The cost of the bond for the amount of Allowance shall be included as part of the lump sum base bid.

b. Funds will be drawn from an Allowance only by Change Order. Contractor can proceed with Change Order Work against Allowance with direction from the Project Manager. The Contractor shall not proceed with any work that will exceed the amount of Allowance remaining.

c. Credits can only be added to an Allowance by Alteration Order. The Contractor may not use a credit until an Alteration Order is fully executed.

d. Notwithstanding the Contractors objection, the Project Manager may at any time reduce the funds remaining in the Allowance by Alteration Order.

e. At Final Payment of the Contract, funds remaining in the Allowance will be credited to the State.

SCHEDULE OF VALUES:

INDICATE DOLLAR AMOUNT OF CONTRACT SUM ALLOCATED TO EACH CATEGORY OF WORK AS DESIGNATED BELOW:

Specification Sections	Description	Amount
	General Conditions	
	Performance & Payment Bond Cost	
	Insurance	
02 41 19	**Demolition**	
06 20 00	**Finish Carpentry**	
06 64 00	**Plastic Paneling**	
07 92 00	**Joint Sealants**	
09 91 00	**Painting, Staining and Transparent Finishing**	
10 21 00	**Compartments and Cubicles**	
10 28 00	**Toilet, Bath and Laundry Accessories**	
22 00 00	**Plumbing**	
26 00 00	**Electrical**	

Sub Total (A):

Allowance #1 (B): $25,000

Grand Total: lump sum base bid (A + B)

NOTE: The Schedule of Values must be completely filled out in order for bid proposal to be considered responsive.

SIGNATURE PAGE

Company Name:_____

Address:_____

Phone:_____

E-mail Address:_____

Signature of Authorized Bidder:

_____

Print:_____

Title:_____

Address of Bidder:_____
(If different than company)

Names and Addresses of Members of the Firm/Corporation

Name address

Name address

Name address

SECTION 00 73 00

SUPPLEMENTARY CONDITIONS

The General Conditions of this Contract are the American Institute of Architect's Document A201, "General Conditions of the Contract for Construction," Fourteenth Edition, 1987, 14 Articles, 24 pages, herein referred to as "AIA General Conditions."

THE SUPPLEMENTARY CONDITIONS

The Supplementary Conditions contain modifications, deletions, and/or additions to the AIA General Conditions. Where any part of the AIA General Conditions is modified, deleted or superseded by the Supplementary Conditions, the unaltered provisions shall remain in full effect.

BIDDING REQUIREMENTS

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

CONDITIONS AT SITE OR BUILDING

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

PERFORMANCE AND PAYMENT BOND

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

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

PROPOSAL GUARANTEE

The Contractor shall furnish a certified check or bid bond in the amount of 5% of the total amount of the Lump Sum Price made payable to the "Treasurer, State of New Hampshire" as a proposal guarantee. This proposal guarantee will be forfeited in the event that the contract is not executed. Personal checks will not be accepted.

DETERMINATION OF RIGHT TO DO BUSINESS WITH STATE OF N.H.

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

PROPOSAL SELECTION

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

state.

CONTRACTORS QUALIFICATIONS

The successful bidder shall provide evidence upon request that they have been successfully performing this type, scale, and quality of work for a minimum of five years. Upon request, a comprehensive list of all similar projects worked on in the past two years by the general contractor shall be submitted along with contact information for 3 references of owner's representatives involved with three different projects completed by the contractor.

EXECUTION OF CONTRACT

The Contractor's attention is called to the following:

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

FAILURE TO EXECUTE CONTRACT. Failure to execute the contract within 15 days after the contract has been mailed or otherwise delivered to the successful Bidder shall be just cause for the cancellation of the award and the forfeiture of the proposal guaranty which shall become the property of the Department, not as a penalty, but in liquidation of damages sustained. Award may then be made to the next lowest Bidder, or the work may be re-advertised as the Commissioner of DNCR may decide.

STARTING DATE

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

WORKERS COMPENSATION INSURANCE

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

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

PROTECTION OF EXISTING PROPERTY

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

the satisfaction of the designated DNCR Project Manager.

CODES

All work performed shall meet the provisions of the currently adopted New Hampshire State Building Code.

WORKMANSHIP

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

CLEAN-UP

The site for this project is in a NH State Park and will be open to the public throughout the construction period. It is important to the Department of Natural and Cultural Resources that the site be maintained in a clean and presentable condition for the public. Therefore, all debris from the project shall be cleaned up daily and removed from the site at least on a weekly basis.

DEFAULT AND TERMINATION OF CONTRACT

If the Contractor…

a) Fails to begin the work under the contract within the time specified in the contract, or

b) Fails to perform the work with sufficient workmen and equipment or with sufficient materials to assure the prompt completion of said work, or

c) Performs the work unsuitably or neglects or refuses to remove materials or to perform anew such work as may be rejected as unacceptable and unsuitable, or

d) Discontinues the prosecution of work, or

e) Fails to resume work which has been discontinued, within reasonable time after notice to do so, or

f) Becomes insolvent or is declared bankrupt, or commits any act of bankruptcy or insolvency, or

g) Makes an assignment for the benefit of creditors, or

h) For any other cause whatsoever, fails to carry on the work in an acceptable manner…

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

If the Contractor or Surety does not proceed in accordance with the Notice, then the Commissioner will, upon written notification from the Project Manager of the fact of such delay, neglect or default, and the Contractor's failure to comply with such notice, have full power and authority without violating the contract, to take the prosecution of the work out of the hands of the Contractor. The Commissioner may enter into an agreement for the completion of said contract according to the terms and conditions thereof, or use such other methods as in his opinion will be required for the completion of said contract in an acceptable manner.
All extra costs and charges incurred by the Department as a result of such delay, neglect or default, together with the cost of completion of the work under the contract will be deducted from any monies due or which may become due said Contractor. If such expenses exceed the sum which would have been payable under the contract, then the Contractor and the Surety shall be liable and shall pay to the

Department, the amount of such excess.

FAILURE TO COMPLETE THE WORK ON TIME

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

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

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

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

ORIGINAL CONTRACT AMOUNT		AMOUNT OF LIQUIDATED DAMAGES PER WORKING DAY
From more than:	to and including:	
$0.00	$25,000.00	$ 300.00
$25,000.00	$50,000.00	$ 400.00
$50,000.00	$100,000.00	$ 500.00
$100,000.00	$500,000.00	$ 600.00

SUBSTANTIAL COMPLETION & FINAL INSPECTION

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

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

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

Final inspection will be made by the Project Manager. Incomplete items necessary to complete the project shall be done prior to final payment.

GUARANTEE OF WORK

1. 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 year** from the date of substantial completion of the work.

2. If, within any guarantee period, repairs or changes are required in connection with guaranteed work, which in the opinion of the Project Manager, is rendered necessary as a result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, the Contractor shall, promptly upon receipt of notice from the Commissioner, and at his own expense:

    a. Place in satisfactory condition in every particular, all of such guaranteed work; correct all defects therein, and…

    b. Make good all damage to the building or site, or equipment or contents thereof, which in the opinion of the Project Manager, is the result of the use of materials, equipment or workmanship which are inferior, defective, or not in accordance with the terms of the Contract, and…

    c. Make good any work or material, or the equipment and contents of said building or site disturbed in fulfilling any such guarantee.

3. In any case, wherein fulfilling the requirements of the Contract or of any guarantee, embraced in or required thereby, the Contractor disturbs any work guaranteed under another contract, he shall restore such disturbed work to a condition satisfactory to the Project Manager and guarantee such restored work to the same extent as it was guaranteed under such other contracts.

4. If the Contractor, after notice, fails to proceed promptly to comply with the terms of the guarantee, the Commissioner may have the defects corrected and the Contractor and his Surety shall be liable for all expense incurred.

5. All special guarantees applicable to definite parts of the work that may be stipulated in the specifications or other papers forming a part of the Contract shall be subject to the terms of this paragraph during the first year of the life of such special guarantee.

PROSECUTION OF WORK

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

CHANGES IN THE WORK

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

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

- The order shall stipulate the mutually agreed upon lump sum price which shall be added to or deducted from the contract price. The contractor shall furnish an itemized breakdown of the prices used in computing the value of any change that might be ordered.

- If the price change is an addition to the contract price and the work is performed by the general contractor and not a subcontractor, it shall include the contractor's indirect costs as follows: Workmen's Compensation and Employee Liability, Unemployment and Social Security Taxes.

- In addition to the above indirect costs, the general contractor shall be allowed a markup not to exceed ten percent (10%). Said ten percent (10%) shall be all inclusive for overhead, supervision, and profit. In addition to this, an allowance shall be made for performance and payment bond additional premiums.

- If the price change is an addition to the contract price and involves the work of the general contractor and subcontractor, the general contractor would be allowed ten percent (10%) on that part of the work performed by him and five percent (5%) on that part of the work performed by the subcontractor. The same percentages shall apply to sub-subcontractors.

- On any change which involves a net credit to the Owner, no allowance for overhead and profit shall be figured.

INSURANCE REQUIREMENTS

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

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

Following is the summary of minimum insurance requirements:

1.) Workmen's Compensation Insurance (In accordance with RSA 281-A.)
   a. Employers' Liability
      1.) $100,000 each accident
      2.) $500,000 Disease-policy limit
      3.) $100,000 Disease-each employee

2.) Commercial General Liability Insurance: Occurrence Form Policy: Include full Contractual Liability (see Indemnification Clause 9), Explosion, Collapse, and Underground coverage's:
   a. Limits of Liability:
      1.) $1,000,000 Each Occurrence Bodily injury & Property Damage
      2.) $2,000,000 General Aggregate-Include per Project Aggregate Endorsement
      3.) $2,000,000 Products/Completed Operations Aggregate
      4.) State shall be named as an additional named insured.

3.) If blasting and/or demolition are required by the Contract, the Contractor or subcontractor shall obtain the respective coverage for those activities, and shall furnish to the Commissioner a certificate of Insurance evidencing the required coverage's prior to commencement of any operations involving blasting and/or demolition.

4.) Owner's Protective Liability coverage for the benefit of the State of New Hampshire Department of Natural and Cultural Resources.
   a. Limits of Liability:

1.) $2,000,000 Each Occurrence
2.) $3,000,000 Aggregate

5.) Commercial Automobile Liability covering all motor vehicles including owned, hired, borrowed, and non-owned vehicles.
   a. Limits of Liability:
      1.) $1,000,000 Combined Single Limit for Bodily injury & Property Damage

6.) Commercial Umbrella Liability
   a. Limits of Liability:
      1.) $1,000,000 Each Occurrence
      2.) $1,000,000 Aggregate

7.) Builder's Risk Insurance (Fire and Extended Coverage):

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

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

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

END OF SUPPLEMENTARY CONDITIONS

SECTION 01 10 00

SUMMARY

PART 1 – GENERAL

1.01 DESCRIPTION

A. Section includes:

1. Project information.
2. Work covered by Contract Documents.
3. Work sequence.
4. Access to site.
5. Coordination with occupants.
6. Work restrictions.
7. Specification and drawing conventions.
8. Miscellaneous provisions.

B. Related Work Specified Elsewhere:

1. SECTION 01 50 00: Temporary Facilities and Controls

1.02 PROJECT INFORMATION

A. Project Identification: ARP #2107, Toilet Building Interior Renovations

1. Project Location: Rye Harbor State Park – Ragged Neck, 1730 Ocean Boulevard, Rye NH

B. Owner: State of New Hampshire, Department of Natural and Cultural Resources

1. Owner's Representative: Scott Coruth, Architect; 603-271-3676, scott.d.coruth@dncr.nh.gov

1.03 WORK COVERED BY CONTRACT DOCUMENTS

A. The Work of Project is defined by the Contract Documents and consists of the following:

1. Selective demolition of interior building components and finishing.
2. New interior finishes.
3. Replacement of toilet fixtures.
4. New toilet partitions and accessories.

B. Type of Contract: Project will be constructed under a stipulated lump sum grand total contract with the State of New Hampshire in accordance with the General Conditions of the Contract for Construction.

C. 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 or every nature whatsoever necessary to execute, complete, and deliver the work within the specified time.

1.04 WORK SEQUENCE

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

1.05 ACCESS TO SITE

A. General: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.

B. Use of Site: Limit use of Project site to work in areas indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.

1. Limits: Confine construction operations to the area directly around the existing building and pavilion.
2. Limits: Limit site disturbance, including earthwork and clearing of vegetation to 10-feet beyond building perimeter; 10-feet beyond surface walkways, patios, surface parking, and utilities less than 12-inches in diameter; 15-feet beyond primary roadway curbs and main utility branch trenches; and 25-feet beyond constructed areas with permeable surfaces (such as pervious paving areas, stormwater detention facilities, and playing fields) that require additional staging areas in order to limit compaction in the constructed area.
3. Driveways, Walkways and Entrances: Keep driveways, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or storage of materials.
    a. Schedule deliveries to minimize use of driveways and entrances by construction operations.
    b. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

C. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.

1.06 COORDINATION WITH OCCUPANTS

A. Full Owner Occupancy: Owner will occupy site and existing adjacent building(s) during entire construction period. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's day-to-day operations. Maintain existing exits unless otherwise indicated.

1. Maintain access to existing walkways, corridors, and other adjacent occupied or used facilities. Do not close or obstruct walkways, corridors, or other occupied or used facilities without permission from Owner and approval of authorities having jurisdiction.
2. Notify Owner not less than 72-hours in advance of activities that will affect Owner's operations.

1.07 WORK RESTRICTIONS

A. Work restrictions, General: Comply with restrictions on construction operations.

1. Comply with limitations on use of public streets and other requirements of authorities having jurisdiction.

B. On-Site Work Hours: Limit work in the existing building to normal business working hours of 7:00 a.m. to 4:30 p.m., Monday through Friday, unless otherwise indicated.

1. 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.
2. No access during the following observed holidays:
   a. New Years' Day.
   b. Martin Luther King Jr. Civil Rights Day.
   c. Washington's Birthday.
   d. Memorial Day.
   e. Independence Day.
   f. Labor Day.
   g. Veterans' Day.
   h. Thanksgiving Day.
   i. Day after Thanksgiving.
   j. Christmas Day.

C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after providing temporary utility services according to requirements indicated:

1. Notify Owner not less than two days in advance of proposed utility interruptions.
2. Obtain Owners written permission before proceeding with utility interruptions.

D. Noise, Vibration, and Odors: Coordinate operations that may result in high levels of noise and vibration, odors, or other disruptions to owner occupancy with owner.

1. Notify Owner not less than two days in advance of proposed disruptive operations.
2. Obtain Owner's written permission before proceeding with disruptive operations.

E. Controlled Substances: Use of tobacco products and other controlled substances on Project site is not permitted.

1.08 SPECIFICATION AND DRAWING CONVENTIONS

A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:

1. Imperative mood and streamlined language are generally used in the Specifications. The words “shall,” “shall be,” or “shall comply with,” depending on the context, are implied where a colon (:) is used within a sentence or phrase.
2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.

B. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.

C. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on drawings to identify materials and products:

1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
2. Abbreviations: Materials and products are identified by abbreviations published as part of the U.S. National CAD Standard and scheduled on Drawings.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF SUMMARY

SECTION 01 20 00

PRICE AND PAYMENT PROCEDURES

PART 1 – GENERAL

1.01 DESCRIPTION

A. Section Includes:

1. Schedule of Values
2. Applications for Payment
3. Allowances

1.02 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 the date of issuance of Notice to Proceed. Failure to submit within specified time period will constitute Default of Contract.

A. Utilize the Schedule of Values provided with the bid and any addenda. The Contractor may add line items to the Schedule of Values with approval from the State's contract administrator. No line items may be deleted. Identify each line item with number and title of specification Section. Identify General Conditions, bonds and insurance.

C. Include 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.

D. Revise schedule to list approved Change Orders, with each Application for Payment.

1.03 APPLICATION FOR PAYMENT

A. Submit three copies of each application or electronic transmittal along with any supporting materials.

B. Execute on AIA Form G702 – Application and Certificate for Payment.

C. Items on the Application for Payment shall be consistent with the items listed on the Proposal Form. Utilize Schedule of Values for listing items in Application for Payment.

D. Submit updated construction schedule with each Application for Payment.

E. Payment Period: Submit monthly, or as otherwise allowed by the Owner.

1.04 ALLOWANCES

A. Contingency Allowances: Use the allowance only as directed by Section 00 41 00 “Bid Proposal Form”.

B. Contractor’s overhead, profit, and related costs for products and equipment ordered by Owner under the contingency allowance are included in the allowance and are not part of the Contract Sum. These costs include delivery, installation, insurance, equipment rental, and similar costs.

C. Change Orders authorizing use of funds from the contingency allowance will include Contractor’s related costs and reasonable overhead and profit margins.

D. At Project closeout, credit unused amounts remaining in the contingency allowance to Owner by Change Order.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF PRICE AND PAYMENT PROCEDURES

SECTION 01 25 00

SUBSTITUTION PROCEDURES

PART 1 – GENERAL

1.01 DESCRIPTION

A. Section includes administrative and procedural requirements for substitutions.

B. Related Work Specified Elsewhere:

1. SECTION 01 20 00: Price and Payment Procedures
2. SECTION 01 60 00: Product Requirements

1.02 DEFINITIONS

A. Substitutions: Changes in products, materials, equipment, and methods of construction from those required by the Contract Documents and proposed by Contractor.

1. Substitution for Cause: Changes proposed by Contractor that are required due to changed Project conditions, such as unavailability of product, regulatory changes, or unavailability of required warranty terms.
2. Substitution for Convenience: Changes proposed by Contractor that are not required in order to meet other Project requirements but may offer advantage to Contractor.

1.03 ACTION SUBMITTALS

A. Substitution Requests: Submit three copies of each request for consideration. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.

1. Documentation: Show compliance with requirements for substitutions and the following, as applicable:

a. Statement indicating why specified product or installation cannot be provided.
b. Coordination information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors, that will be necessary to accommodate proposed substitution.
c. Detailed comparisons of significant qualities of proposed substitution with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
e. Samples, where applicable or requested.
f. Certificates and qualification data, where applicable or requested.

g. List of similar installation for completed projects with project names and addresses and names and addresses of architects and owners.
h. Material test reports from qualified testing agency indicating and interpreting test results for compliance with requirements indicated.
i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
j. Detailed comparison of Contractor's construction schedule using proposed substitution with products specified for the Work, including effect on the overall Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
k. Cost information, including a proposal of change, if any, in the Contract Sum.
l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents except as indicated in substitution request, is compatible with related materials, and is appropriate for applications indicated.
m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure or proposed substitution to produce indicated results.

2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.04 QUALITY ASSURANCE

A. Compatibility of Substitutions: Investigate and document compatibility of proposed substitution with related products and materials. Engage a qualified testing agency to perform compatibility tests recommended by manufacturers.

1.05 PROCEDURES

A. Coordination: Revise or adjust affected work as necessary to integrate work of the approved substitutions.

PART 2 – PRODUCTS

2.01 SUBSTITUTIONS

A. Substitutions for Cause: Submit requests for substitution immediately on discovery of need for change, but not later than 15 days prior to time required for preparation and review of related submittals.

1. Conditions: Architect will consider Contractor's request for substitution when the following conditions are satisfied. If the following conditions are not satisfied, Architect will return requests without action, except to record noncompliance with these requirements:

    a. Requested substitution is consistent with the Contract Documents and will produce indicated results.
    b. Requested substitution provides sustainable design characteristics that specified product provided.
    c. Substitution request is fully documented and properly submitted.
    d. Requested substitution will not adversely affect Contractor's construction schedule.
    e. Requested substitution has received necessary approvals of authorities having jurisdiction.
    f. Requested substitution is compatible with other portions of the Work.
    g. Requested substitution has been coordinated with other portions of the Work.
    h. Requested substitution provides specified warranty.
    i. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

B. Substitutions for Convenience: Not allowed.

PART 3 – EXECUTION (Not Used)

END OF SUBSTITUTION PROCEDURES

SECTION 01 26 00

CONTRACT MODIFICATION PROCEDURES

PART 1 – GENERAL

1.01 DESCRIPTION

A. Section includes administrative and procedural requirements for handling and processing Contract modifications.

B. Related Work Specified Elsewhere:

1. SECTION 01 20 00: Price and Payment Procedures
2. SECTION 01 25 00: Substitution Procedures
3. SECTION 01 30 00: Administrative Requirements

1.02 MINOR CHANGES IN THE WORK

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

1.03 PROPOSAL REQUESTS

A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specification.

1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.

2. Within time specified by Proposal Request or 14 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.

    a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
    b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
    c. Include costs of labor and supervision directly attributable to the change.
    d. Include and updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.

B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for change to Architect.

1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.

2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

3. Indicate applicable delivery charges, equipment rental, and amounts of trade discounts.

4. Include costs of labor and supervision directly attributable to the change.

5. Include an updated Contractor's construction schedule that indicates effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available float before requesting an extension of the Contract Time.

6. Comply with requirements in Section 01 25 00 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.

1.04 CHANGE ORDER PROCEDURES

A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Contract Change Order for signatures of Owner and Contractor on Owner's standard form.

1.05 CONSTRUCTION CHANGE DIRECTIVE

A. Construction Change Directive: Architect may issue a Construction Change Directive on Architects standard form. Construction Change Directive instructs Contractor to proceed with a change in Work, for subsequent inclusion in a Change Order.

1. Construction Change Directive contains a complete description of change in the Work. It also designates method to be followed to determine change in Contract Sum or the Contract Time.

B. Documentation: Maintain detailed records on a time and materials basis of work required by the Construction Change Directive.

1. After completion of change, submit an itemized account and supporting data necessary to substantiate cost and time adjustments to the Contract.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION (Not Used)

END OF CONTRACT MODIFICATION PROCEDURES

SECTION 01 30 00

ADMINISTRATIVE REQUIRMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

A. Section includes administrative provisions for coordinating construction operations, submittal procedures, delegated design, and Contractor's construction schedule including, but not limited to, the following:

1. Project management and coordination
2. Submittal procedures
3. Delegated design
4. Construction schedule

B. Related Work Specified Elsewhere:

1. SECTION 01 70 00: Execution and Closeout Requirements

1.02 PROJECT MANAGEMENT AND COORDINATION

A. Subcontract List: Submit a written summary identifying individuals or firms proposed for each portion of the Work.

B. Key Personnel Names: Within 15 days of starting construction operations, submit a list of key personnel assignments, including superintendent and other personnel in attendance at Project site. List e-mail addresses and telephone numbers.

C. Coordinate construction operations included in different Sections of the Specifications to ensure efficient and orderly installation of each part of the Work.

D. Requests for Information (RFIs): On discovery of the need for additional information or interpretation of the Contract Documents, Contractor shall prepare and submit an RFI. Use forms acceptable to Architect.

E. Schedule and conduct progress meetings at Project site at biweekly intervals. Notify Owner of meeting dates and times. Require attendance of each subcontractor or other entity concerned with current progress or involved in planning, coordination, or performance of future activities.

1. Contractor will record minutes and distribute to all attendees, including Owner/Architect.

1.03 SUBMITTAL ADMINISTRATIVE REQUIREMENTS

A. Architect's Digital Data Files: Requests for Electronic digital data files of the Contract Drawings will be considered on a case by case basis and documents may be provided by Architect for Contractor's use in preparing submittals. Contractor is to submit request for specific drawing file pertinent to shop drawing preparation.

1. Architect may furnish Contractor specific digital data drawing files of the Contract Drawings for use in preparing Shop Drawings.

    a. The decision to provide digital file data is at the sole discretion of the architect. No damages or claims will be accepted for failure to provide requested digital data.
    b. Architect makes no representations as to the accuracy or completeness of digital data drawing files as they relate to the Contract Drawings.
    c. Contractor shall execute a liability release and/or data licensing agreement in the form acceptable to the Architect.

B. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.

1. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
2. Architect will discard submittals received from sources other than Contractor.

C. Paper Submittals: Place a permanent label or title block on each submittal for identification. Provide a space approximately on label or beside title block to record Contractor's review and approval markings and action taken by Architect. Include the following information on the label:

1. Project name.
2. Date.
3. Name and address of Contractor.
4. Name and address of subcontractor or supplier.
5. Number and title of appropriate Specification Section.

D. Electronic Submittals: Identify and incorporate information in each electronic submittal file as follows:

1. Assemble complete submittal package into a single indexed file incorporating submittal requirements of a single Specification Section and transmittal form with links enabling navigation to each item.
2. Name file with unique identifier, including project identifier, Specification Section number, and revision identifier.
3. Provide means for insertion to permanently record Contractor's review and approval markings and action taken by Architect.

E. Identify options requiring selection by Architect.

F. Identify deviations from the Contract Documents on submittals.

G. Contractor's Construction Schedule Submittal Procedure:

1. Submit required submittals in the following format:

    a. Working electronic copy of schedule file, where indicated.
    b. PDF electronic file

c. Three paper copies.

2. Contractor's Construction Schedule: Initial schedule, of size required to display entire schedule for entire construction period.

3. Coordinate Contractor's construction schedule with the schedule of values, submittal schedule, progress reports, payment requests, and other required schedules and reports.

PART 2 – PRODUCTS

2.01 SUBMITTAL PROCEDURES

A. General Submittal procedure Requirements: Prepare and submit submittals required by individual Specification Sections.

1. Submit electronic submittals vie email as PDF electronic files.

B. Architect will return annotated file. Annotate and retain one copy of file as an electronic Project record document file.

2.02 ACTION SUBMITTALS

A. Submit two paper copies of each submittal unless otherwise indicated. Architect will return one copy.

B. Product Data: Mark each copy to show applicable products and options. Include the following:

1. Manufacturer's written recommendations, product specifications, and installation instructions.
2. Wiring diagrams showing factory-installed wiring.
3. Printed performance curves and operational diagrams.
4. Testing by recognized testing agency.
5. Compliance with specified standards and requirements.

C. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data. Submit on sheets at least 8-1/2 by 11-inches but not larger than 24 by 36-inches. Include the following:

1. Dimensions and identification of products.
2. Fabrication and installation drawings and roughing-in and setting diagrams.
3. Wiring diagrams showing field-installed wiring.
4. Notation of coordination requirements.
5. Notation of dimensions established by field measurement.

D. Samples: Submit Samples for review of kind, color, pattern, and texture and for comparison of these characteristics between submittal and actual component as delivered and installed. Include name of manufacturer and product name on label.

1. If variation is inherent in material or product, submit at least three sets of paired units that show variations.

2.03 INFORMATIONAL SUBMITTALS

A. Informational Submittals: Submit two copies of each submittal unless otherwise indicated. Architect will return one copy.

B. Qualification Data: Include lists of completed projects with project names and addresses, names and addresses of architects and owners, and other information specified.

C. Product Certificates: Prepare written statements on manufacturer's letterhead certifying that product complies with requirements in the Contract Documents.

2.04 DELEGATED DESIGN SERVICES

A. Performance and Design Criteria: Where professional design services or certifications by a design professional are specifically required of Contractor by the Contract Documents, provide products and systems complying with specific performance and design criteria indicated.

1. If criteria indicated are not sufficient to perform services or certification required, submit a written request for additional information to Architect.

B. Delegated-Design Submittal: In addition to Shop Drawings, Product Data, and other required submittals, submit four copies of a statement, signed and sealed by the responsible design professional, for each product and system specifically assigned to Contractor to be designed or certified by a design professional.

1. Indicate that products and systems comply with performance and design criteria in the Contract Documents. Include list of codes, loads, and other factors used in performing these services.

2.05 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Gantt-Chart Schedule: Submit a comprehensive, fully developed, schedule in the format outlined in the General Conditions.

B. Preparation: Indicate each significant construction activity separately. Identify first workday of each week with a continuous vertical line.

C. Cost Correlation: Superimpose a cost correlation timeline, indicating planned and actual costs. On the line, show planned and actual dollar volume of the Work performed as of planned and actual dates used for preparation of payment requests.

D. Recovery Schedule: When periodic update indicates the Work is 14 or more calendar days behind the current approved schedule, submit a separate recovery schedule indicating means by with Contractor intends to regain compliance with the schedule. Indicate changes to working hours, working days, crew size, and equipment required to achieve compliance, and indicate date by which recovery will be accomplished.

PART 3 – EXECUTION

3.01 SUBMITTAL REVIEW

A. Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.

B. Architect will review each action submittal, make marks to indicate corrections or modification required, will signify each submittal with an action stamp, and will signify appropriately to indicate action.

C. Informational Submittals: Architect will review each submittal and will return a copy. Architect will forward each submittal to appropriate party.

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

3.02 CONTRACTOR'S CONSTRUCTION SCHEDULE

A. Updating: At monthly intervals, update schedule to reflect actual construction progress and activities. Issue schedule a minimum of one day before each regularly scheduled progress meeting.

1. As the Work progresses, indicate Actual Completion percentage for each activity.

B. Distribute copies of approved schedule to Owner/Architect, subcontractors, testing and inspecting agencies, and parties identified by Contractor with a need-to-know schedule responsibility. When revisions are made, distribute updated schedules to the same parties.

END OF ADMINISTRATIVE REQUIREMENTS

SECTION 01 40 00

QUALITY REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

A. This Section includes administrative and procedural requirements for quality assurance and quality control.

B. Testing and inspecting services are required to verify compliance with requirements specified or indicated. These services do not relieve Contractor of responsibility for compliance with the Contract Document requirements.

1. Specific quality-assurance and –control requirements for individual construction activities are specified in the Sections that specify those activities. Requirements in those Sections may also cover production of standard products.
2. Specified tests, inspections, and related activities do not limit Contractor's other quality-assurance and –control procedures that facilitate compliance with the Contract Document requirements.
3. Requirements for Contractor to provide quality-assurance and –control services required by Architect, Owner, or authorities having jurisdiction are not limited by provisions of this Section.

1.02 CONFLICTING REQUIREMENTS

A. Referenced Standards: If compliance with two or more standards is specified and the standards establish different or conflicting requirements for minimum quantities or quality levels, comply with most stringent requirement. Refer conflicting requirements that are different, but apparently equal, to Architect for a decision before proceeding.

B. Minimum Quantity or Quality Level: The quantity or quality level shown or specified shall be the minimum provided or performed. The actual installation may comply with the minimum quantity or quality specified, or it may exceed the minimum within reasonable limits. To comply with these requirements, indicated numeric values are minimum or maximum, as appropriate, for the context of requirements. Refer uncertainties to Architect for a decision before proceeding.

1.03 QUALITY ASSURANCE

A. General: Qualifications paragraphs in this Article establish the minimum qualification levels required; individual Specification Sections specify additional requirements.

B. Installer Qualifications: A firm or individual experienced in installing, erecting, or assembling work similar in material, design, and extent to that indicated for this Project, whose work has resulted in construction with a record of successful in-service performance.

C. Manufacturer Qualifications: A firm experienced in manufacturing products or systems similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

D. Fabricator Qualifications: A firm experienced in producing products similar to those indicated for this Project and with a record of successful in-service performance, as well as sufficient production capacity to produce required units.

E. Professional Engineer Qualifications: A professional engineer who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing engineering services of the kind indicated. Engineering services are defined as those performed for installation of the system, assembly, or products that are similar to those indicated for this Project in material, design, and extent.

F. Specialists: Certain sections of the Specification require that specific construction activities shall be performed by entities who are recognized experts in those operations. Specialists shall satisfy qualification requirements indicated and shall be engaged for the activities indicated.

1. Requirement for specialists shall not supersede building codes and regulations governing the Work.

G. Testing Agency Qualifications: An NRTL, an NVLAP, or an independent agency with the experience and capability to conduct testing and inspecting indicated, as documented according to ASTM E 548; and with additional qualifications specified in individual Sections; and where required by authorities having jurisdiction, that is acceptable to authorities.

1. NRTL: A nationally recognized testing laboratory according to 29 CFR 1910.7.
2. NVLAP: A testing agency accredited according to NIST's National Voluntary Laboratory Accreditation Program.

H. Factory-Authorized Service Representative Qualifications: An authorized representative of manufacturer who is trained and approved by manufacturer to inspect installation of manufacturer's products that are similar in material, design, and extent to those indicated for this Project.

I. Mockups: Before installing portions of the Work requiring mockups, build mockups for each for each form of construction and finish required to comply with the following requirements, using materials indicated for the completed Work:

1. Build mockups in location and of size indicated or, if not indicated, as directed by Architect.
2. Notify Architect/Engineer seven days in advance of dates and times when mockups will be constructed.
3. Demonstrate the proposed range of aesthetic effects and workmanship.
4. Obtain Architect's/Engineer's approval of mockups before starting work, fabrication, or construction.
5. Maintain mockups during construction in an undisturbed condition as a standard for judging the completed Work.
6. Demolish and remove mockups when directed, unless otherwise indicated.

1.04 QUALITY CONTROL

A. Owner Responsibilities: Where quality-control services are indicated as Owner's responsibility, Owner will engage a qualified testing agency to perform these services.

1. Owner will furnish Contractor with names, addresses, and telephone numbers of testing agencies engaged and a description of types of testing and inspecting they are engaged to perform.
2. Costs for retesting and re-inspecting construction that replaces or is necessitated by work that failed to comply with the Contract Documents will be charged to Contractor, and the Contract Sum will be adjusted by Change Order.

B. Contractor Responsibilities: Tests and inspections not explicitly assigned to Owner are Contractor's responsibility. Unless otherwise indicated, provide quality-control services specified and those required by authorities having jurisdiction. Perform quality-control services required of Contractor by authorities having jurisdiction, whether specified or not.

C. Manufacturer's Field Services: Where indicated, engage a manufacturer's representative to observe and inspect the Work. Manufacturer's representative's services include examination of substrates and conditions, verification of materials, inspection of completed portions of the Work, and submittal of written reports.

D. Retesting/Reinspecting: Regardless of whether original tests or inspections were Contractor's responsibility, provide quality-control services, including retesting and reinspecting, for construction that replaced Work that failed to comply with the Contract Documents.

E. Associated Services: Cooperate with agencies performing required tests, inspections, and similar quality-control services, and provide reasonable auxiliary services as requested. Notify agency sufficiently in advance of operations to permit assignment of personnel. Provide the following:

1. Access to the Work.
2. Incidental labor and facilities necessary to facilitate tests and inspection.
3. Adequate quantities of representative sample of materials that require testing and inspecting. Assist agency in obtaining samples.
4. Facilities for storage and of test samples.
5. Delivery of samples to testing agencies.

F. Coordination: Coordinate sequence of activities to accommodate required quality-assurance and –control services with a minimum of delay and to avoid necessity of removing and replacing construction to accommodate testing and inspecting.

1.05 SPECIAL TESTS AND INSPECTIONS

A. Special Tests and Inspections: Owner will engage a qualified testing agency to conduct special tests and inspections required by authorities having jurisdiction as the responsibility of the Owner, and as follows:

1. Verifying that manufacturer maintains detailed fabrication and quality-control procedures and reviews the completeness and adequacy of those procedures to perform the Work.
2. Notify Architect and Contractor promptly of irregularities and deficiencies observed in the Work during performance of its services.
3. Submitting a certified written report of each test, inspection, and similar quality-control service to Architect with copy to Contractor and to authorities having jurisdiction.
4. Submitting a final report of special tests and inspections at Substantial Completion, which includes a list of unresolved deficiencies.
5. Interpreting tests and inspections and stating in each report whether tested and inspected work complies with or deviates from the Contract Documents.
6. Retesting and reinspecting corrected work.

PART 2 – PRODUCTS (Not Used)

PART 3 – EXECUTION

3.01 REPAIR AND PROTECTION

A. General: On completion of testing, inspecting, sample taking, and similar services, repair damaged construction and restore substrates and finishes.

1. Provide materials and comply with installation requirements specified in other Specification Sections or matching existing substrates and finishes. Restore patched areas and extend restoration into adjoining areas with durable seams that are as invisible as possible. Comply with Contract Document requirements for cutting and patching in Section 01 70 00 “Execution and Closeout Requirements.”

B. Protect construction exposed by or for quality-control service activities.

C. Repair and protection are Contractor’s responsibility, regardless of the assignment of responsibility for quality-control services.

END OF QUALITY REQUIREMENTS

SECTION 01 50 00

TEMPORARY FACILITIES AND CONTROLS

PART 1 – GENERAL

1.01 DESCRIPTION

A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.

1. The Work shall include, but shall not necessarily be limited to:
   a. Temporary utilities
   b. Construction facilities
   c. Temporary controls

B. Related Work Specified Elsewhere:

1. SECTION 01 26 00: Contract Modification Procedures
2. SECTION 01 70 00: Execution and Closeout Requirements

1.02 QUALITY ASSURANCE

A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.

B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.03 PROJECT CONDITIONS

A. The Contractor shall be permitted to utilize the existing Owner utilities at the site. These utilities include electric power and water. The Contractor shall provide temporary sanitary facilities for the workmen, temporary cell phones and temporary fire safety devices such as fire extinguishers.

PART 2 – PRODUCTS

2.01 TEMPORARY FACILITIES

A. Field Offices: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.

B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.

2.02 EQUIPMENT

A. Fire Extinguishers: Portable, UL rated; with class and extinguishing agent as required by locations and classes of fire exposures.

PART 3 – EXECUTION

3.01 INSTALLATION, GENERAL

A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.

B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed or are replaced by authorized use of completed permanent facilities.

3.02 TEMPORARY UTILITY INSTALLATION

A. General: Install temporary service or connect to existing service.

1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.

B. Water Service: Provide water service or connect to Owner's existing water service facilities (if in operation). Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.

C. Sanitary Facilities: Provide temporary toilets, wash facilities, and drinking water for use of construction personnel. Comply with authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities. Permanent sanitary facilities installed under this Contract shall not be used during construction.

D. Heating and Cooling: Provide temporary heating and cooling required by construction activities for curing or drying of completed installation or for protecting installed construction from adverse effects of low temperatures or high humidity. Select equipment that will not have a harmful effect on completed installation or elements being installed.

E. Ventilation and Humidity Control: Provide temporary ventilation required by construction activities for curing or drying of completed installations or for protecting installed construction from adverse effects of high humidity. Select equipment that will not have a harmful effect on completed installation or elements being installed. Coordinate ventilation requirements to produce ambient condition required and minimize energy consumption.

F. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.

G. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.

3.03 SUPPORT FACILITIES INSTALLATION

A. General: Comply with the following:

1. Provide construction for temporary offices, shops, and sheds located within construction area or within 30-feet of building lines that is noncombustible according to ASTM E 136. Comply with NFPA 241.
2. Maintain support facilities until Architect schedules Substantial Completion inspection. Remove before Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner.

B. Parking: Use designated areas of Owner's existing parking areas for construction personnel.

3.04 SECURITY AND PROTECTION FACILITIES INSTALLATION

A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.

B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.

C. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in manner that will prevent people and animals from easily entering site except by entrance gate.

D. Barricades, Warning Signs, and Lights: Comply with authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.

E. Temporary Egress: Maintain temporary egress from existing occupied facilities as indicated and as required by authorities having jurisdiction.

3.05 OPERATION, TERMINATION, AND REMOVAL

A. Supervision: Enforce strict discipline in use of temporary facilities. To minimize waste and abuse, limit availability or temporary facilities to essential and intended uses.

B. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot by satisfactorily repaired.

END OF TEMPORARY FACILITIES AND CONTROLS

SECTION 01 60 00

PRODUCT REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

A. Section includes administrative and procedural requirements for selection of products for use in Project.

1. The Work shall include, but shall not necessarily be limited to:
   a. Product delivery, storage, and handling
   b. Manufacturers' standard warranties
   c. Special warranties
   d. Comparable products

B. Related Work Specified Elsewhere:

1. SECTION 01 20 00: Price and Payment Procedures
2. SECTION 01 25 00: Substitution Procedures

1.02 DEFINITIONS

A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.

1. Named products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
3. Comparable Products: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.03 ACTION SUBMITTALS

A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and drawing numbers and titles. Note that no substitutions for convenience are allowed per Section 01 25 00.

1. Include data to indicate compliance with the requirements specified in "Comparable Products" Article.
2. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.

    a. Form of Approval: As specified in Section 01 30 00 "Administrative Requirements."
    b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.

B. Basis-of-Design Product Specification Submittal: Comply with requirements in Section 01 30 00 "Administrative Requirements."

1.04 QUALITY ASSURANCE

A. Compatibility of Options: If contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.

1.05 DELIVERY, STORAGE AND HANDLING

A. Deliver, store, and handle products using means and methods that will prevent damage, deterioration, and loss, including theft and vandalism. Comply with manufacturer's written instructions.

B. Delivery and Handling:

1. Schedule delivery to minimize long-term storage at Project site and to prevent overcrowding of construction spaces.
2. Coordinate delivery with installation time to ensure minimum holding time for items that are flammable, hazardous, easily damaged, or sensitive to deterioration, theft, and other losses.
3. Deliver products to Project site in an undamaged condition in manufacturer's original sealed container or other packaging system, complete with labels and instructions for handling, storing, unpacking, protecting, and installing.
4. Inspect products on delivery to determine compliance with the Contract Documents and to determine that products are undamaged and properly protected.

C. Storage:

1. Store products to allow for inspection and measurement of quantity or counting of units.

2. Store materials in a manner that will not endanger Project structure.
3. Store products that are subject to damage by elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
6. Protect stored products from damage and liquids from freezing.
7. Provide a secure location and enclosure at Project site for storage of materials and equipment by owner's construction forces. Coordinate location with owner.

1.06 PRODUCT WARRANTIES

A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.

1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to owner.
2. Special Warranty: Written warranty required by Contract Documents to provide specific rights for Owner.

B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.

1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
3. See other Sections for specific content requirements and particular requirements for submitting special warranties.

C. Submittal Time: Comply with requirements in Section 01 70 00 "Execution and Closeout Requirements."

PART 2 – PRODUCTS

2.01 PRODUCT SELECTION PROCEDURES

A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.

1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.

3. Owner reserves the right to limit selection to products with warranties not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term “as selected”, Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product complies with requirements. Comparable products or substitutions for Contractor’s convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor’s convenience will not be considered.
3. Products:

    a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements.

4. Manufacturers:

    a. Restricted List: Where Specifications include a list of manufacturers’ names, provide a product by one of the manufacturers listed that complies with requirements.

5. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers and/or products, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications indicate sizes, profiles, dimensions, and other characteristics that are based on the product names. Comply with requirements in “Comparable Products” Article for consideration of an unnamed product by one of the other named manufacturers.

C. Visual Selection Specification: Where Specifications include the phrase “as selected by Architect from manufacturer’s full range” or similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer’s product line that includes both standard and premium items.

2.02 COMPARABLE PRODUCTS

A. Conditions for Consideration: Architect will consider Contractor’s request for comparable products when the following conditions are satisfied. Note that substitutions for convenience are not allowed per Section 01 25 00. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.
4. List of similar installations for completed projects with project names and addresses and names and addresses or architects and owners, if requested.
5. Samples, if requested.

PART 3 – EXECUTION (Not Used)

END OF PRODUCT REQUIREMENTS

SECTION 01 70 00

EXECUTION AND CLOSEOUT REQUIREMENTS

PART 1 – GENERAL

1.01 DESCRIPTION

A. Section includes general administrative and procedural requirements governing execution and closeout of the Work including, but not limited to, the following:

1. Execution
2. Cutting and patching
3. Cleaning
4. Closeout procedures

B. Related Work Specified Elsewhere:

1. SECTION 01 10 00: Summary
2. SECTION 01 30 00: Administrative Requirements

1.02 EXECUTION REQUIREMENTS

A. Cutting and Patching:

1. Structural Elements: When cutting and patching structural elements, notify Architect of locations and details of cutting and await directions from Architect before proceeding. Shore, brace, and support structural elements during cutting and patching.
2. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that result in increased maintenance or decreased operational life or safety.
3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence or cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the buildings aesthetic qualities.

B. Manufacturer's Installation Instructions: Obtain and maintain on-site manufacturer's written recommendations and instructions for installation of products and equipment.

1.03 CLOSEOUT SUBMITTALS

A. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

B. Certified List of Incomplete Items: Final submittal at Final Completion.

C. Operation and Maintenance Data: Submit two hard copies of manual.

a. PDF Electronic File: Assemble manual into a composite electronically indexed file. Submit on digital media.

D. Record Drawings: Submit two set of marked-up record prints.

E. Record Product Data: Submit one paper copy and annotated PDF electronic files and directories of each submittal.

1.04 SUBSTANTIAL COMPLETION PROCEDURES

A. Prepare a list of items to be completed and corrected (punch list), the value of items on the list, and reasons why the Work is not complete.

B. Submittals Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:

1. Obtain and submit releases from authorities having jurisdiction permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
2. Submit closeout submittals specified in other Sections, including project record documents, operation and maintenance manuals, property surveys, similar final record information, warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
3. Submit maintenance material submittals specified in other Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect.
4. Submit test/adjust/balance records.
5. Submit Changeover information related to owner's occupancy, use, operation, and maintenance.

C. Procedures Prior to Substantial Completion: Before requesting Substantial Completion inspection, complete the following:

1. Advise owner of pending insurance changeover requirements.
2. Make final changeover of permanent locks and deliver keys to Owner.
3. Complete startup and testing of systems and equipment.
4. Perform preventative maintenance of equipment prior to Substantial Completion.
5. Advise owner of changeover in heat and other utilities.
6. Participate with owner in conducting inspection and walkthrough with local emergency responders.
7. Remove temporary facilities and controls.
8. Complete final cleaning requirements, including touchup painting.
9. Touch up and otherwise repair and restore marred exposed finishes to eliminate visual defects.

D. Inspection: Submit a written request for inspection for Substantial Completion. On receipt of request, Architect will proceed with inspection or advise Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.

1.05 FINAL COMPLETION PROCEDURES

A. Submittals Prior to Final Completion: Before requesting inspection for determining final completion, complete the following:

1. Submit a final Application for Payment.
2. Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list). Certified copy of the list shall state that each item has been completed or otherwise resolved.
3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.

B. Submit a written request for final inspection and acceptance. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare final Certificate for Payment after inspection or will advise Contractor of items that must be completed or corrected before certificate will be issued.

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

PART 2 – PRODUCTS

2.01 MATERIALS

A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.

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

2.02 OPERATION AND MAINTENANCE DOCUMENTATION

A. Directory: Prepare a single, comprehensive directory of emergency, operation, and maintenance data and materials, listing items and their location to facilitate ready access to desired information.

B. Organization: Unless otherwise indicated, organize manuals into separate sections for each system and subsystem, and separate sections for each piece of equipment not part of a system.

C. Organize data into three-ring binders with identification on front and spine of each binder, and envelopes for folded drawings. Include the following:

1. Manufacturer's operation and maintenance documentation.
2. Maintenance and service schedules.
3. Maintenance service contracts. Include name and telephone number of service agent.
4. Emergency instructions.
5. Spare parts list and local source of maintenance materials.
6. Wiring diagrams.

7. Copies of warranties. Include procedures to follow and required notifications for warranty claims.

2.03 RECORD DRAWINGS

A. Record Prints: Maintain a set of prints of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modification are issued. Mark to show actual installation where installation varies from that shown originally. Accurately record information in an acceptable drawing technique.

1. Record drawings are to be updated at a minimum weekly.
2. Review markings with Architect and Owner at Project Meetings.
3. Identify and date each record Drawing; include the designation “PROJECT RECORD DRAWING” in a prominent location.

B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect.

PART 3 – EXECUTION

3.01 EXAMINATION AND PREPARATION

A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.

1. Comply with the “Underground Utility Damage Prevention System” per NH RSA 374 by notification to DIG-SFAE SYSTEM, Inc., of intent to excavate within 100 feet of an underground utility. Contact DIG-SAFE at least seventy-two (72) hours in advance of starting any excavation.

B. Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance.

1. Verify compatibility with and suitability of substrates.
2. Examine roughing-in for mechanical and electrical systems.
3. Examine walls, floors, and roofs for suitable conditions.

C. Proceed with installation only after unsatisfactory conditions have been corrected.

D. Take field measurements as required to fit the Work properly. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication.

E. Verify space requirements and dimensions of items shown diagrammatically on Drawings.

3.02 INSTALLATION

A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.

1. Make vertical work plumb and horizontal work level.
2. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
3. Maintain minimum headroom clearance of 96-inches in occupied spaces and 90-inches in unoccupied spaces, unless otherwise noted.

B. Comply with manufacturer's written instructions and recommendations.

C. Conduct construction operations so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy.

D. Templates: Obtain and distribute to the parties involved templates for work specified to be factory prepared and field installed.

E. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place. Where size and type of attachments are not indicated, verify size and type required for load conditions.

F. Joints: Make joints uniform in width. Where joint locations in exposed work are not indicated, arrange joints for the best visual effect. Fit exposed connections together to form hairline joints.

G. Use products, cleaners, and installation materials that are not considered hazardous.

3.03 CUTTING AND PATCHING

A. Provide temporary support of work to be cut.

B. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.

C. Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to minimize interruption to occupied areas.

D. Cutting: Cut in-place construction using methods least likely to damage elements retained or adjoining construction.

1. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.

E. Patch with durable seams that are as invisible as possible. Provide materials and comply with installation requirements specified in other Sections.

1. Restore exposed finishes of patched areas and extend finish restoration into adjoining construction in a manner that will minimize evidence of patching and refinishing.

2. Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance.
3. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing patch. Provide additional coats until patch blends with adjacent surfaces.

3.04 CLEANING

A. Clean Project site and work areas daily, including common areas. Dispose of materials lawfully.

1. Remove liquid spills promptly.
2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
3. Remove debris from concealed spaces before enclosing space.

B. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion:

1. Clean Project site, yard, and grounds, in areas disturbed by construction activities. Sweep paved areas; remove stains, spills, and foreign deposits. Rake grounds that are neither planted nor paved to a smooth, even-textured surface.
2. Remove labels that are not permanent.
3. Clean transparent materials, including mirrors. Remove excess glazing compounds.
4. Clean exposed finishes to a dust-free condition, free of stains, films, and foreign substances. Sweep concrete floors broom clean.
5. Wipe surfaces of mechanical and electrical equipment. Remove excess lubrication and foreign substances. Clean plumbing fixtures. Clean light fixtures, lamps, globes, and reflectors.

3.05 OPERATION AND MAINTENANCE MANUAL PREPARATION

A. Operation and Maintenance Manuals: Assemble a complete set of operation and maintenance data indicating operation and maintenance of each system, subsystem, and piece of equipment not part of a system.

B. Manufacturer's Data: Where manuals contain manufacturers' standard printed data, include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.

1. Prepare supplementary text if manufacturers' standard printed data are unavailable and where the information is necessary for proper operation and maintenance of equipment or systems.

C. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams.

3.06 DEMONSTRATION AND TRAINING

A. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system. Include detailed review of the following:

1. Include instructions for basis of system design and operational requirements, review of documentation, emergency procedures, operations, adjustments, troubleshooting, maintenance, and repairs.

END OF EXECUTION AND CLOSEOUT REQUIREMENTS

SECTION 02 41 19

SELECTIVE DEMOLITION

PART 1 – GENERAL

1.01 DESCRIPTION

A. Provide all labor, materials, equipment, services, etc. required to provide all Selective Demolition as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job.

The Work of this Section is not necessarily fully represented on the Drawings or specifically identified herein. The Contractor, either himself or through his various subcontractors, shall thoroughly review all documents and shall visit the site and existing building prior to bidding, as required to fully satisfy himself as to the types, locations and quantities of demolition work required for the complete and proper execution of the Work. No pleas of misunderstanding resulting from failure to adequately inspect existing conditions will be entertained and no additional expenses related thereto will be granted.

1. The Work shall include, but shall not necessarily be limited to:
   a. Removal of hollow items or items which could collapse
   b. Protection of site work and adjacent items
   c. Disconnection, capping, and removal of utilities
   d. Pollution control during building and selective demolition, including noise control
   e. Selective demolition of interior partitions, systems, and building components designated to be removed.
   f. Removal of abandoned utilities and wiring systems
   g. Removal and legal disposal of materials
   h. Protection of designated site improvements and adjacent construction
   i. Interruption, capping or removal of utilities as applicable

1.02 MATERIALS OWNERSHIP

A. Unless otherwise indicated, demolition waste becomes property of Contractor.

1.03 QUALITY ASSURANCE

A. Codes and Regulations: Comply with governing codes and regulations. Use experienced workers.

1.04 PROJECT CONDITIONS

A. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.

B. Notify Owner of discrepancies between existing conditions and Drawings before proceeding with selective demolition.

C. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.

1. Hazardous materials will be removed by Owner before start of the Work.
2. If suspected hazardous materials are encountered, do not disturb; immediately notify Owner. Hazardous materials will be removed by Owner under a separate contract.

D. Storage or sale of removed items or materials on-site is not permitted.

E. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

PART 2 – PRODUCTS

2.01 PERFORMANCE REQUIREMENTS

A. Regulatory Requirements: Comply with governing EPA notification regulation before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.

B. Standards: Comply with ANSI/ASSE A10.6 and NFPA 241.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify that utilities have been disconnected and capped before starting selective demolition operations.

B. Verify that hazardous materials have been remediated before proceeding with building demolition operations.

3.02 UTILITY SERVICES AND MECHNICAL/ELECTRICAL SYSTEMS

A. Existing Services/Systems to Remain: Maintain services/systems to remain and protect them against damage.

B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off utility services and mechanical/electrical systems serving areas to be selectively demolished.

1. Arrange to shut off utilities with utility companies.
2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
3. Disconnect, demolish, and remove electrical, plumbing and HVAC systems, equipment, and components indicated on Drawings to be removed.
    a. Piping to be Removed: Remove portion of piping indicated to be removed and cap or plug remaining piping with same or compatible piping material.
    b. Equipment to be Removed: Disconnect and cap services and remove equipment.

3.03 PROTECTION

A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.

B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.

1. Strengthen or add new supports when required during progress of selective demolition.

C. Remove temporary barricades and protections where hazards no longer exist.

3.04 SELECTIVE DEMOLITION, GENERAL

A. General: Demolish and remove existing construction only to extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:

1. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
2. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
3. Maintain fire watch during and for at least two hours after flame-cutting operations.
4. Maintain adequate ventilation when using cutting torches.
5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose off-site.
6. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
7. Dispose of demolished items and materials promptly.

B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.

C. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Owner, items may be removed to a suitable, protected storage location during selective demolition and cleaned and reinstalled in their original locations after selective demolition operations are complete.

3.05 DISPOSAL OF DEMOLISHED MATERIALS

A. Remove demolition waste materials from Project site and recycle or dispose of them.

1. Do not allow demolished materials to accumulate on-site.
2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.

B. Burning: Do not burn demolished materials.

3.06 CLEANING

A. Clean adjacent structures and improvements of dust, dirt, and debris caused by selective demolition operations. Return adjacent areas to condition existing before selective demolition operations began.

END OF SELECTIVE DEMOLITION

SECTION 06 20 00

FINISH CARPENTRY

PART 1 – GENERAL

1.01 DESCRIPTION

A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Finish Carpentry as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job.

1. The Work shall include, but shall not necessarily be limited to:
   a. Interior standing and running trim
   b. PVC trim

B. Related Work Specified Elsewhere:

1. SECTION 09 91 00: Painting

1.02 INFORMATIONAL SUBMITTALS

A. Evaluation Reports: For the following, from ICC-ES:

1. Cellular PVC trim

1.03 QUALITY ASSURANCE

A. Perform work in accordance with AWI AWS Section 6 grades identified in Section.

B. Manufacturer Qualifications: Company specializing in manufacturing products specified in this section with minimum three years' experience.

1.04 PROJECT CONDITIONS

A. During and after installation of Work of this Section, maintain same temperature and humidity conditions in building spaces as will occur after occupancy.

1. Maintain relative humidity ranges indicated in AWI AWS Section 2

1.05 WARRANTY

A. Manufacturer's Warranty for Cellular PVC Trim: Manufacturer agrees to repair and replace trim that fails due to defects in manufacturing within specified warranty period. Failures include, but are not limited to, deterioration, delamination, and excessive swelling from moisture.

1. Warranty Period: 25 years from date of Substantial Completion

PART 2 – PRODUCTS

2.01 INTERIOR MATERIALS

A. Interior Softwood Lumber: White Pine

1. Grade: Finish Grade
2. Cut: Plain sawn
3. Finger Jointing: Not permitted

B. Lumber Moisture Content Range: 9-15 percent

C. Interior Plastic Boards and Panels: Extruded, expanded PVC with a small-cell microstructure, recommended by manufacturer for interior use, made from UV- and heat-stabilized, rigid material.

1. Density: Not less than 31 lb/cu. Ft.
2. Heat Deflection Temperature: Not less than 130 deg F, according to ASTM D 648
3. Coefficient of Thermal Expansion: Not more than 4.5 x 10^{-5} inches/inch x deg F
4. Water Absorption: Not more than 1 percent, according to ASTM D 570
5. Flame-Spread Index: 75 or less, according to ASTM E 84

2.02 FABRICATION

A. Fabricate finish carpentry to AWI AWS Section 6 Custom Grade.

B. When necessary to cut and fit on site, fabricate materials with ample allowance for cutting. Furnish trim for scribing and site cutting.

2.03 FINISHES

A. Sand work smooth and set exposed nails and screws.

B. Apply wood filler in exposed nail and screw indentations.

C. On items to receive transparent finishes, use wood filler matching surrounding surfaces and of types recommended for applied finishes.

D. Stain, seal and varnish exposed to view surfaces.

E. Seal internal surfaces and semi-concealed surfaces

F. Seal surfaces in contact with cementitious materials.

2.04 ACCESSORIES

A. Fasteners and Anchors:

1. Fasteners: ASTM A153/A153M, hot dipped galvanized steel for high humidity and treated wood locations, unfinished steel elsewhere.
2. Nails and Staples: ASTM F1667

B. Concealed Joint Fasteners: Threaded steel.

C. Wood Filler: Solvent or oil base, tinted to match surface finish color.

D. Specialty plastic or PVC plugs to conceal countersunk screws in PVC trimwork.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Verify adequacy of backing and support framing.

B. Verify mechanical, electrical, and building items affecting work of this Section are placed and ready to receive this work.

C. Examine finish carpentry materials before installation. Reject materials that are wet, moisture damaged, and mold damaged.

D. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Clean substrates of projections and substances detrimental to application.

B. Prime lumber and molding to be painted including both faces and edges, unless factory primed. Cut to required lengths and prime ends. Comply with requirements in Section 09 91 00 “Painting”

3.03 INSTALLATION

A. Install work in accordance with AWI AWS Section 6 and Custom Grade and manufacturer’s instructions.

B. Set and secure materials and components in place, plumb and level.

C. Carefully scribe work abutting other components, with maximum gaps of 1/32-inch. Do not use additional overlay trim to conceal larger gaps.

D. Install cellular PVC trim to comply with manufacturer’s written instructions.

1. Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24-inches long except where necessary.
    a. Use scarf joints for end-to-end joints.
    b. Stagger end joints in adjacent and related members.

E. Standing and Running Trim: Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available to greatest extent possible. Do not use pieces less than 96-inches long except where necessary.

1. Use scarf joints for end-to-end joints.
2. Stagger end joints in adjacent and related members.
3. Fill gaps, if any, between top of base and wall with plastic wood filler, sand smooth, and finish same as wood base if finished.
4. Install standing and running trim with no more variation from a straight line than 1/8-inch in 96-inches.

F. Preparation for Site Finishing:

1. Set exposed fasteners. Apply wood filler in exposed fastener indentations. Sand work smooth.
2. Site Finishing: Refer to Section 09 91 00 “Painting.”

3.04 TOLERANCES

A. Conform to AWI AWS Section 6 requirements for the following:

1. Smoothness
2. Gaps
3. Flushness
4. Flatness

B. Maximum Variation from Indicated Position: 1/16-inch.

C. Maximum Offset from Alignment with Abutting Materials: 1/32-inch.

END OF FINISH CARPENTRY

SECTION 06 64 00

PLASTIC PANELING

PART 1 – GENERAL

1.01 DESCRIPTION

A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Plastic Paneling as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job.

1. The Work shall include, but shall not necessarily be limited to:
   a. Glass-fiber reinforced plastic (FRP) wall paneling
   b. Accessories and trim

B. Related Work Specified Elsewhere:

1. SECTION 06 20 00: Finish Carpentry
2. SECTION 07 92 00: Joint Sealants

1.02 SUBMITTALS

A. Product Data: For each type of product indicated.

B. Shop Drawings: Submit shop drawings of each wall showing locations of paneling and trim members with respect to all discontinuities in the wall elevation.

C. Selection Samples: Submit manufacturer's standard color pattern selection samples representing manufacturer's full range of available colors and patterns.

D. Samples for Verification: For plastic paneling and trim accessories, in manufacturer's standard sizes.

1.03 QUALITY ASSURANCE

A. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84 by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

1. Flame-Spread Index: 200 or less.
2. Smoke-Developed Index: 450 or less.
3. Testing Agency: Acceptable to authorities having jurisdiction.

1.04 DELIVERY, STORAGE AND HANDLING

A. All materials and related accessories shall be delivered and stored in strict compliance with the manufacturer's instructions.

B. Environmental Limitations: Do not deliver or install plastic paneling until spaces are enclosed and weathertight and temporary HVAC system is operating and maintaining ambient temperature and humidity conditions at occupancy levels during the remainder of the construction period.

1.05 PROJECT CONDITIONS

A. Maintain environmental conditions (temperature, humidity and ventilation) within the limits recommended by manufacturer for optimum results. Do not install products under environmental conditions outside manufacturer's absolute limits.

1.06 WARRANTY

A. Furnish one year guarantee against defects in material and workmanship.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: Subject to compliance with requirements, provide products by Marlite which is located at: 1 Marlite Drive, Dover, OH 44622, or comparable products by Fibertech, Fiberglass Specialties, Inc. or approved equal.

B. Source Limitation: Obtain products from a single source from a single manufacturer.

2.02 PLASTIC SHEET PANELING

A. General: Gelcoat-finished, glass-fiber reinforced plastic panels complying with ASTM D 5319.

1. Basis of Design Product: Standard FRP
2. Nominal Thickness: Not less than 2.3mm (0.090 inches).
3. Surface Texture: As selected by Architect from manufacturer's full range.
4. Color: As selected by Architect from manufacturer's full range.

2.03 ACCESSORIES

A. Trim Accessories: Manufacturer's standard narrow one-piece extrusions designed to retain and cover edges of panels.

1. Material: Vinyl
2. Color: As selected by Architect from manufacturer's full range.
3. Trim Schedule:
    a. Top Edges, Bottom Edges, & Vertical Edges: Marlite M370
    b. Inside Corners: Marlite M350
    c. Vertical and Horizontal Joints: Sealant Joint

B. Exposed Fasteners: Not Permitted.

C. Adhesive: As recommended by plastic paneling manufacturer.

1. Adhesive shall have a VOC content of 50 g/L or less when calculated according to 40 CFR 59, Subpart D (EPA Method 24).

D. Sealant: Single-component, mildew-resistant, neutral curing silicone sealant recommended by plastic paneling manufacturer and complying with requirements of Section 07 92 00 "Joint Sealants."

E. Base: Color and profile as selected by Architect from manufacturer's full range.

2.04 PLYWOOD BACKING PANELS

A. FRP Backing Panels: DOC PS 1, Exterior, C-C Plugged Exposure 1, or C-D Plugged. 1/2-inch APA Rated, fire-retardant-treated sheathing.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine substrates and conditions, with Installer present, for compliance with requirements for installation tolerances and other conditions affecting performance of the Work.

B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.02 PREPARATION

A. Prepare substrate by sanding high spots and filling low spots as needed to provide flat, even surface for panel installation.

B. Clean substrates of substances that could impair bond of adhesive, including oil, grease, dirt, and dust.

C. Condition panels by unpacking and placing in installation space before installation according to manufacturer's written recommendations.

D. Lay out paneling before installing. Locate panel joints to provide equal panels at ends of walls not less than half the width of full panels.

1. Mark plumb lines on substrate at panel joint locations for accurate installation.
2. Locate trim accessories to allow clearance at panel edges according to manufacturer's written instruction.

3.03 INSTALLATION

A. Install plastic paneling according to manufacturer's written instructions.

B. Install panels in a full spread of adhesive. Drive rivets and exposed fasteners are not permitted.

C. Install trim accessories with adhesive and nails or staples. Do not fasten through panels.

D. Fill grooves in trim accessories with sealant before installing and bed inside corner trim in a bead of sealant.

E. Maintain uniform space between panels and wall fixtures. Fill space with sealant.

F. Maintain uniform space between adjacent panels and between panels and floors, ceilings, and fixtures. Fill space with sealant.

G. Remove excess sealant and smears as paneling is installed. Clean with a solvent recommended by sealant manufacturer and then wipe with clean dry cloths until no residue remains.

END OF PLASTIC PANELING

SECTION 07 92 00

JOINT SEALANTS

PART 1 – GENERAL

1.01 DESCRIPTION

A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Joint Sealants as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job.

1. The Work shall include, but shall not necessarily be limited to:
   a. Silicone joint sealants.

1.02 ACTION SUBMITTALS

A. Product Data: For each joint-sealant product specified, including: Preparation instructions and recommendations

B. Samples for Initial Selection: Manufacturer's color charts consisting of cured sealants showing the full range of colors available for each product exposed to view.

1.03 INFORMATIONAL SUBMITTALS

A. Qualification Data: For qualified Installer and testing agency.

B. Product Certificates: For each kind of joint sealant and accessory, from manufacturer.

C. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, indicating that sealants comply with requirements.

1.04 QUALITY ASSURANCE

A. Source Limitations: Obtain each kind of joint sealant from a single source from single manufacturer.

B. Product Testing: Test joint sealants using a qualified testing agency.

1. Testing Agency Qualifications: An independent testing agency qualified according to ASTM C 1021 to conduct the testing indicated.
2. Test according to SWRI's Sealant Validation Program for compliance with requirements specified by reference to ASTM C 920 for adhesion and cohesion under cyclic movement, adhesion-in-peel, and indentation hardness.

C. Installer Qualifications: Experienced Installer equipped and trained for application of joint sealants required for this Project with record of successful completion of projects of similar scope.

1.05 DELIVERY, STORAGE AND HANDLING

A. All materials and related accessories shall be delivered and stored in strict compliance with the manufacturer's instructions.

1.06 PROJECT CONDITIONS

A. Do not proceed with installation of joint sealants under the following conditions:

1. When ambient and substrate temperature conditions are outside limits permitted by joint sealant manufacturer or are below 40 degrees F.
2. When joint substrates are wet.
3. Where joint widths are less than those allowed by joint sealant manufacturer for applications indicated.
4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.07 WARRANTY

A. Special Installer's Warranty: Manufacturer's standard form in which Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.

1. Warranty Period: Two years from date of Substantial Completion.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: Provide joint sealant products manufactured by Tremco, Inc., Commercial Sealants and Waterproofing Division, An RPM Company which is located in: Beachwood, OH, or comparable products by Dow Corning Corporation, Sika Corporation, Pecora Corporation, or approved equal.

B. Source Limitation: Obtain products from a single source from a single manufacturer.

2.02 MATERIALS, GENERAL

A. VOC Content for Interior Applications: Provide sealants and sealant primers complying with the following VOC content limits per 40 CFR 59, Subpart D (EPA Method 24):

1. Architectural Sealants: 250 g/L.
2. Sealant Primers for Nonporous Substrates: 250 g/L.
3. Sealant Primers for Porous Substrates: 775 g/L.

B. Compatibility: Provide joint sealants and accessory materials that are compatible with one another, and with adjacent materials, as demonstrated by sealant manufacturer using ASTM C 1087 testing and related experience.

C. Joint Sealant Standard: Comply with ASTM C 920 and other specified requirements for each sealant.

D. Stain Test Characteristics: Where sealants are required to be non-staining, provide sealants tested per ASTM C 1248 as non-staining on porous joint substrates specified.

2.03 SILICONE JOINT SEALANTS

A. Mildew-Resistant, Single-Component, Acid-Curing Silicone Joint Sealant **SJS #1**: ASTM C 920, Type S, Grade NS, Class 25, Use NT.

1. Basis of Design Product: Tremsil 200 Sanitary by Tremco
2. Volatile Organic Compound Content: 1 g/L maximum
3. Staining, ASTM C 1248: None on concrete, marble, granite, limestone, and brick.
4. Color: As selected by Architect from manufacturer's standard line of colors.

2.04 JOINT SEALANT ACCESSORIES

A. Cylindrical Sealant Backing: ASTM C 1330, Type B non-absorbent, bi-cellular material with surface skin, or Type O open-cell polyurethane, as recommended by sealant manufacturer for application.

B. Bond Breaker Tape: Polymer tape compatible with joint sealant and adjacent materials and recommended by sealant manufacturer.

C. Joint Substrate Primers: Substrate primer recommended by sealant manufacturer for application.

D. Cleaners: Chemical cleaners acceptable to joint sealant manufacturer.

E. Masking Tape: Non-Staining, non-absorbent tape product compatible with joint sealants and adjacent surfaces.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine joint profiles and surfaces to determine if work is ready to receive joint sealants. Verify joint dimensions are adequate for development of sealant movement capability. Verify joint surfaces are clean, dry, and adequately cured. Proceed with joint sealant work once conditions meet sealant manufacturer's written recommendations.

3.02 PREPARATION

A. Joint Surface Cleaning: Clean joints prior to installing joint sealants using materials and methods recommended by sealant manufacturer. Comply with ASTM C 1193.

1. Remove curing compounds, laitance, form-release agents, dust, and other contaminants.
2. Clean nonporous and porous surfaces utilizing chemical cleaners acceptable to sealant manufacturer.

3. Protect elements surrounding the Work of this section from damage or disfiguration. Apply masking tape to adjacent surfaces when required to prevent damage to finishes from sealant installation.

3.03 SEALANT APPLICATION

A. Sealant and Primer Installation Standard: Comply with ASTM C 1193 and manufacturer's written instructions.

B. Joint Backing: Select joint backing materials recommended by sealant manufacturer as compatible with sealant and adjacent materials. Install backing material at depth required to produce profile of joint sealant allowing optimal sealant movement.

1. Install joint backing to maintain the following joint ratios:
   a. Joints up to 1/2-inch wide: 1:1 width to depth ratio.
   b. Joints greater than 1/2-inch wide: 2:1 width to depth ratio; maximum 1/2-inch joint depth.
2. Install bond breaker tape over substrates when sealant backings are not used.

C. Masking: Mask adjacent surfaces to prevent staining or damage by contact with sealant or primer.

D. Joint Priming: Prime joint substrates when recommended by sealant manufacturer or when indicated by preconstruction testing or experience. Apply recommended primer using sealant manufacturer's recommended application techniques.

E. Liquid Sealant Application: Install sealants using methods recommended by sealant manufacturer, in depths recommended for application. Apply in continuous operation from bottom to top of joint vertically and horizontally in a single direction. Apply using adequate pressure to fill and seal joint width.

1. Tool sealants immediately with appropriately shaped tool to force sealants against joint backing and joint substrates, eliminating voids and ensuring full contact.
2. Install sealant free of air pockets, foreign embedded matter, ridges, and sags.
3. Tool exposed joint surface concave using tooling agents provided by sealant manufacturer for application.

F. Cleaning: Remove excess sealant using materials and methods approved by sealant manufacturer that will not damage joint substrate materials.

1. Remove masking tape immediately after tooling joint without disturbing seal.
2. Remove excess sealant from surfaces while still uncured.

END OF JOINT SEALANTS

SECTION 09 91 00

PAINTING

PART 1 – GENERAL

1.01 DESCRIPTION

A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Painting and Staining as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job.

1. The Work shall include, but shall not necessarily be limited to:
   a. Painting and finishing of all interior and exterior exposed items and surfaces, and any other surfaces indicated on the Drawings or herein specified to receive paint. NOTE: Special attention shall be given to the proper priming of all sides and edges of all exterior wood to be painted.
   b. All necessary surface preparation and priming.
   c. Field testing compatibility of new paint with existing paint or finishes to be covered.
2. The painting subcontractor shall fully examine all Drawings and Specification Sections to determine scope of their provisions regarding painting and finishing. All surfaces that are primed or left unfinished by the requirements of other Sections of the Specifications shall be painted or finished as a part of this Section.
3. The painting subcontractor shall examine the Drawings and note new patches in existing construction. In cases where new finishes are not scheduled for the existing construction, new patches shall be finished to match existing.

B. The following categories of work are not included as part of field-applied painting and finishing Work.

1. Prefinished Items: Unless otherwise indicated, painting is not required on items specified for factory- or installer-finishing.
2. Concealed Surfaces: Unless otherwise indicated, painting is not required on surfaces in concealed areas and generally inaccessible areas, foundation spaces, furred areas, attics, utility tunnels and pipe spaces, and elevator and duct shafts.
3. Finished Metal Surfaces: Unless otherwise indicated, painting is not required on metal surfaces of anodized aluminum, stainless steel, chromium plate, copper, bronze and similar finished materials.
4. Operating Parts: Painting is not required on moving parts of operating units, mechanical and electrical parts such as valve and damper operators, linkages, sensing devices, and motor and fan shafts.

C. Do not paint over any code-required labels, such as Underwriters' Laboratories (UL) and Factory Mutual (FM), or any equipment identification, performance rating, name, or nomenclature plates.

1.02 ACTION SUBMITTALS

A. Product Data: Provide a complete list of all products to be used, with the following information for each.

1. Manufacturer's name, product name and/or catalog number, and general product category.
2. Cross-reference to specified paint system(s) that the product is to be used in; include description of each system.

B. Samples for Initial Selection: For each product specified, color chips indicating manufacturers full range of available colors and sheens.

1.03 INFORMATIONAL SUBMITTALS

A. Manufacturer Qualifications: All primary products specified in this section will be supplied by a single manufacturer with a minimum of ten years' experience.

B. Installer Qualifications: All products listed in this section are to be applied by a Painting Contractor with a minimum of five years demonstrated experience in surface preparation and field application of the same type and scope as specified.

1.04 DELIVERY, STORAGE AND HANDLING

A. Store products in manufacturer's unopened packaging until ready for installation.

B. Store and dispose of solvent-based materials, and materials used with solvent-based materials, in accordance with requirements of local authorities having jurisdiction.

C. Store materials in an area that is within the acceptable temperature range per manufacturer's instructions. Protect from freezing.

1.05 PROJECT CONDITIONS

A. Do not apply paint in snow, rain, fog or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: Subject to compliance with requirements, provide Sherwin-Williams Company products indicated or comparable product from one of the following:

1. Cabot
2. Minwax
3. Benjamin Moore & Company
4. Pratt & Lambert
5. PPG Pittsburg Paints

B. Source Limitation: Obtain products from a single source from a single manufacturer.

2.02 MATERIALS, GENERAL

A. Compatibility: Provide materials for use within each system that are compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience. For each coat in a system, provide products recommended in writing by manufacturers of topcoat for use in paint system and on substrate indicated.

B. Colors: As selected by the Architect from manufacturer's full range.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared; notify Architect of unsatisfactory conditions before proceeding. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

B. Ensure that moisture-retaining substrates to receive paint have moisture content within tolerances allowed by coating manufacturer.

C. Examine surfaces to receive coatings for surface imperfections and contaminants that could impair performance or appearance of coatings, including but not limited to, loose primer, rust, scale, oil, grease, mildew, algae, or fungus, stains or marks, cracks, indentations, or abrasions.

D. Correct conditions that could impair performance or appearance of coatings in accordance with specified surface preparation procedures before proceeding with coating application.

3.02 SURFACE PREPARATION

A. General: Perform preparation and cleaning procedures in accordance with manufacturer's instructions and as herein specified, for each particular substrate condition.

B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.

1. After completing coating operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

C. Cleaning: Before applying paint or surface treatments, clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.

1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint system indicated.

D. Concrete Substrates: Remove release agents, curing compounds, efflorescence, and chalk. Do not paint surfaces if moisture content or alkalinity or surfaces to be painted exceeds that permitted in manufacturer's written instructions.

E. Wood:

1. Seal knots, pitch streaks, and sap areas with sealer recommended by coating manufacturer, fill nail recesses and cracks with filler recommended by coating manufacturer; sand surfaces smooth.
2. Remove mill marks and ink stamped grade marks.
3. Prime edges, ends, faces, undersides, and backsides of wood.
4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.03 APPLICATION

A. Apply each coat to a uniform coating thickness in accordance with manufacturer's instructions, not exceeding manufacturer's specified maximum spread rate for indicated surface; thins, brush marks, roller marks, orange-peel, or other application imperfections are not permitted.

B. Allow manufacturer's specified drying time, and ensure correct coating adhesion, for each coat before applying next coat.

C. Inspect each coat before applying next coat; touch-up surface imperfections with coating material, feathering, and sanding if required; touch-up areas to achieve flat, uniform surface without surface defects visible from 5-feet.

D. Remove dust and other foreign materials from substrate immediately prior to applying each coat.

E. Where paint application abuts other materials or other coating color, terminate coating with a clean sharp termination line without coating overlap.

F. Where color changes occur between adjoining spaces through framed openings that are of the same color as adjoining surfaces, change color at outside stop corner nearest to face of closed door.

G. Re-prepare and re-coat unsatisfactory finishes; refinish entire area to corners or other natural terminations.

H. Interior wood trim to be painted shall be back-primed before installation with an interior wood primer.

I. Exterior wood trim to be painted shall be back-primed before installation with exterior wood primer. Edges of exterior plywood shall be similarly primed before installation.

3.04 CLEANING AND PROTECTION

A. After completing coating application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

B. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in undamaged condition.

C. At completion of construction activities of other trades, touch up and restore damaged or defaced surfaces.

3.05 PAINTING AND COATING SCHEDULE

A. Exterior Painting:

1. Wood:

- Prime Coat: Primer, latex for exterior wood.
- Intermediate Coat: Latex, exterior, matching topcoat.
- Topcoat: Latex, exterior satin: S-W A-100 Exterior Latex Satin, A82 Series, at 4.0 mils wet, 1.5 mils dry, per coat.
- Topcoat (Trim): Latex, exterior, gloss: S-W A-100 Exterior Latex Gloss, A8 Series, at 4.0 mils wet, 1.3 mils dry, per coat.

B. Interior Painting:

1. Concrete Floors:

- First Coat: S-W ArmorSeal 33 Epoxy Primer/Sealer, 8.0 mils DFT, per coat.
- Second Coat: Epoxy, matching topcoat.
- Topcoat: S-W ArmorSeal 1000 HS Epoxy B67-2000 Series with anti-slip aggregate, at 3.0 to 5.0 mils DFT, per coat.

2. Wood Plank and Trim:

- First Coat: Minwax Water Based Pre-Stain Wood Conditioner
- Second Coat: Minwax Water Based Wood Stain, Color: White Wash Pickling. Provide extra coats as required to meet desired finish.
- Third Coat: Minwax Polycrylic Protective Finish

END OF PAINTING

SECTION 10 21 00

COMPARTMENTS AND CUBICLES

PART 1 – GENERAL

1.01 DESCRIPTION

A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Compartments and Cubicles as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job.

1. The Work shall include, but shall not necessarily be limited to:
    a. Phenolic core toilet compartments configured as toilet enclosures and urinal screens

B. Related Work Specified Elsewhere:

1. SECTION 10 28 00: Toilet, Bath and Laundry Accessories

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.

B. Shop Drawings: For toilet compartments. Include plans, elevations, sections, details, and attachments to other work.

1. Show locations of cutouts for compartment mounted toilet accessories.
2. Show locations of reinforcement for compartment mounted grab bars.
3. Show locations of centerlines of toilet fixtures.

C. Samples for Initial Selection: For each type of unit indicated. Include Samples of hardware and accessories involving material and color selection.

1.03 INFORMATIONAL SUBMITTALS

A. Product Certificates: For each type of toilet compartment, from manufacturer.

1.04 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet compartments to include in maintenance manuals.

1.05 QUALITY ASSURANCE

A. Manufacturers Qualifications: Manufacturer of products specified in this Section, with minimum five years' experience in the manufacture of toilet compartments.

B. Installer Qualifications: Experienced Installer regularly engaged in installation of toilet compartments for minimum three years.

C. Surface-Burning Characteristics: As determined by testing identical products according to ASTM E 84, or another standard acceptable to authorities having jurisdiction, by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

D. Regulatory Requirements: Comply with applicable provisions in the U.S. Architectural & Transportation Barriers Compliance Board's "Americans with Disabilities Act (ADA) and Architectural Barriers Act (ABA) Accessibility Guidelines for Buildings and Facilities" and ICC/ANSI A117.1 for toilet compartments designated as accessible.

1.06 DELIVERY, STORAGE AND HANDLING

A. All materials and related accessories shall be delivered and stored in strict compliance with the manufacturer's instructions.

1.07 PROJECT CONDITIONS

A. Field Measurements: Verify actual locations of toilet fixtures, walls, columns, ceilings, and other construction contiguous with toilet compartments by field measurements before fabrication.

1.08 WARRANTY

A. Special Manufacturer's Warranty: Provide manufacturer's standard form in which manufacturer agrees to repair or replace products that fail in materials or workmanship during the following period after substantial completion:

1. Phenolic Core Toilet Partitions: Against delamination: 3 years.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: Subject to compliance with requirements, provide products from Bobrick Washroom Equipment, Inc., or comparable products by Bradley Corporation, Accurate Partitions Corporation or approved equal.

B. Source Limitation: Obtain products from a single source from a single manufacturer.

2.02 MATERIALS

A. Phenolic Core: Compressed cellulose impregnated with phenolic resins. Provide smooth material, without creases or ripples.

B. Aluminum Castings: ASTM B 26/B 26M.

C. Aluminum Extrusions: ASTM B 221.

D. Stainless-Steel Sheet: ASTM A 666, Type 304, stretcher-leveled standard of flatness.

E. Stainless-Steel Castings: ASTM A 743/A 743M.

2.03 PHENOLIC CORE TOILET COMPARTMENTS

A. Toilet Compartment Type: Floor Anchored and Overhead Braced

B. Urinal Screen Style: Floor-Anchored

1. Screen Height: 48-inches with 12-inches floor clearance.

C. Door, Panel, and Stile Construction, General: Form edges square without crown molding. Finish edges smooth.

1. Provide exposed surfaces free of pitting, visible seams and fabrication marks, stains, telegraphing of core material, or other imperfections.
2. Core Material: Manufacturer's standard solid resin core of thickness required to provide finished thickness for doors, panels and stiles.

D. Stile and Door Construction: 3/4-inch thick.

E. Panel and Screen Construction: 1/2-inch thick.

F. Shoes & Sleeves: 4-inches high minimum, Type 304 stainless steel with No. 4 satin brushed finish. Provide concealed retainer clips to attach to stile.

G. Leveling Devices: 7 gauge, 3/16-inches thick, corrosion resistant, chromate-treated, double zinc-plated steel angle leveling bar bolted to stile; furnished with 3/8-inch diameter threaded rods, hex nuts, lock washers, flat washers, spacer sleeves, expansion anchors and shoe retainers.

H. Mounting Brackets (Fittings): Continuous full-height angle or U-brackets; stainless steel or extruded aluminum; Continuous over full height of panels.

I. Phenolic Core Finish: Manufacturer's standard impregnated. Allow for two colors in each room, one for stiles and panels and one color for doors.

1. Color: As selected by Architect from manufacturer's extended range. Architect shall make selections from plastic laminate manufacturer's line of plastic laminates up to and including the intermediate price range colors and patterns.
2. Edge color: Black or brown.

2.04 HARDWARE

A. Hardware: Manufacturer's standard heavy duty 18-8, Type 304 heavy-gauge stainless steel with satin finish, including corrosion-resistant, tamper-resistant fasteners:

1. Hinges: Continuous 16 gauge stainless steel piano hinge. Hinge shall be full height of door and secures with 14 fasteners.

2. Latch and Keeper: Surface-mounted slide latch with flat rubber-faced combination door strike and keeper, with provision for emergency access, meeting requirements for accessibility at accessible compartments.
3. Coat Hook: Combination hook and rubber-tipped stop, sized to prevent door from hitting compartment-mounted accessories. Provide wall bumper where door abuts wall. Provide formed L-shaped hook without stop at outswing doors.
4. Door Pull: Standard unit on outside of inswing doors. Provide pulls on both sides of outswing doors.

2.05 FABRICATION

A. Floor-Anchored Units: Provide manufacturer's standard corrosion-resistant anchoring assemblies with leveling adjustment nuts at stiles for structural connection to floor. Provide shoes at stiles to conceal anchorage.

B. Door Size and Swings: Unless otherwise indicated, provide 26-inch wide, in-swinging doors for standard toilet compartments and 36-inch wide, out-swinging doors with a minimum 32-inch wide clear opening for compartments designated as accessible.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Examine work area to verify that measurements, substrates, supports, and environmental conditions are in accordance with manufacturer's requirements to allow installation.

1. Proceed with installation once conditions meet manufacturer's requirements.

3.02 INSTALLATION

A. General: Comply with manufacturer's written installation instructions. Install units rigid, straight, level and plumb. Secure units in position with manufacturer's recommended anchoring devices.

B. Install toilet partitions and screens in spaces with operating, temperature controlled HVAC systems. Shield partitions and screens from direct sunlight.

C. Clearances: Install with clearances indicated on Drawings. Where clearances are not indicated, allow maximum 1/2-inch between stiles and panels, and 1-inch between panels and walls.

D. Continuous Brackets: Locate wall brackets so holes for wall anchors occur in masonry or tile joints. Align brackets at stiles with brackets at walls.

3.03 ADJUSTING

A. Hardware Adjustment: Adjust and lubricate hardware according to hardware manufacturer's written instructions for proper operation. Set hinges on in-swinging doors to hold doors open approximately 15 degrees from closed position when unlatched. Set hinges on out-swinging doors to return doors to fully closed position.

3.04 FINAL CLEANING

A. Remove packaging and construction debris and legally dispose of off-site.

B. Clean partition and screen surfaces with materials and cleaners in accordance with manufacturer's recommendations.

END OF COMPARTMENTS AND CUBICLES

SECTION 10 28 00

TOILET, BATH AND LAUNDRY ACCESSORIES

PART 1 – GENERAL

1.01 DESCRIPTION

A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Toilet, Bath and Laundry Accessories as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job.

1. The Work shall include, but shall not necessarily be limited to:
    a. Public-use washroom accessories
    b. Warm-air dryers
    c. Childcare accessories

B. Related Work Specified Elsewhere:

1. SECTION 10 21 00: Compartments and Cubicles

1.02 ACTION SUBMITTALS

A. Product Data: For each type of product indicated. Include the following:

1. Construction details and dimensions.
2. Anchoring and mounting requirements, including requirements for cutouts in other work and substrate preparation.
3. Material and finish descriptions.
4. Features that will be included for Project.
5. Manufacturer’s warranty.

B. Product Schedule: Indicating types, quantities, sizes, and installation locations by room of each accessory required.

1. Identify locations using room designations indicated.
2. Identify products using designations indicated.

1.03 INFORMATIONAL SUBMITTALS

A. Warranty: Sample of special warranty.

1.04 CLOSEOUT SUBMITTALS

A. Maintenance Data: For toilet and bath accessories to include in maintenance manuals.

1.05 QUALITY ASSURANCE

A. Manufacturer Qualifications: Manufacturer with minimum 5 years' experience in the manufacture of the product types specified. If requested submit a list of successful installations of similar products for evaluation by Architect.

B. Electrical Components, Devices and Accessories: Listed and labeled as defined in NFPA 70, by a qualified testing agency, and marked for intended location and application.

C. Accessibility Requirements: Comply with requirements of ADA/ABA and with requirements of authorities having jurisdiction.

1.06 COORDINATION

A. Coordinate accessory locations with other work to prevent interference with clearances required for access by people with disabilities, and for proper installation, adjustment, operation, cleaning, and servicing of accessories.

B. Deliver inserts and anchoring devices set into concrete or masonry as required to prevent delaying the Work.

1.07 WARRANTY

A. Manufacturer's Warranty for Washroom Accessories: Manufacturer's standard 1 year warranty for materials and workmanship.

B. Manufacturer's Warranty for Electric Hand Dryers: Manufacturer's standard 10 year warranty on parts from date of purchase.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: Subject to compliance with requirements, provide products from American Specialties, Inc, or comparable products by Bradley Corp., Bobrick or approved equal.

B. Source Limitation: Obtain products from a single source from a single manufacturer.

2.02 MATERIALS

A. Stainless Steel: ASTM A 666, Type 304, 0.031-inch minimum nominal thickness unless otherwise indicated.

B. Brass: ASTM B 19, flat products; ASTM B 16/B 16M, rods, shapes, forgings, and flat products with finished edges; or ASTM B 30, castings.

C. Steel Sheet: ASTM A 1008/A 1008M, Designation CS (cold rolled, commercial steel), 0.036-inch nominal thickness.

D. Galvanized-Steel Sheet: ASTM A 653/A 653M, with G60 hot-dip zinc coating.

E. Galvanized Steel Mounting Devices: ASTM A 153/A 153M, hot-dip galvanized after fabrication.

F. Fasteners: Screws, bolts, and other devices of same material as accessory unit and tamper-and-theft resistant where exposed, and of galvanized steel where concealed.

G. Chrome Plating: ASTM B 456, Service Condition Number SC 2 (moderate service).

H. Mirrors: ASTM C 1503, Mirror Glazing Quality, clear-glass mirrors, nominal 6.0 mm thick.

I. ABS Plastic: Acrylonitrile-butadiene-styrene resin formulation.

2.03 PUBLIC-USE WASHROOM ACCESSORIES

A. Toilet Tissue (Roll) Dispensers:

1. Surface-Mounted Jumbo-Roll Toilet Tissue Dispensers: American Specialties, Inc. Model #0040

B. Liquid-Soap Dispensers:

1. Surface-Mounted Soap Dispensers: American Specialties, Inc. Model #0347

C. Grab Bars:

1. Stainless Steel Grab Bars (with snap flange covers): American Specialties, Inc. Model #3800.
2. Configuration and Length: As indicated on Drawings.

D. Sanitary Napkin Disposal Units:

1. Surface Mounted Sanitary Napkin Disposal Units: American Specialties, Inc. Model #0473-A.

E. Mirrors:

1. Stainless Steel Channel Frame Mirrors: American Specialties, Inc. Model #0600 (24”X36”)

2.04 WARM-AIR DRYERS

A. Surface-Mounted ADA Dryers:

1. Saniflow Speedflow plus Model #M17ACS-UL

2.05 CHILDCARE ACCESSORIES

A. Diaper-Changing Stations:

1. Surface-mounted Horizontal Design Baby Changing Stations: American Specialties, Inc. Model #9012

2.06 FABRICATION

A. Fabricate units with tight seams and joints, and exposed edges rolled. Hang doors and access panels with full-length, continuous hinges. Equip units for concealed anchorage and with corrosion-resistant backing plates.

B. Provide universal keys for internal access to accessories for servicing and resupplying. Provide minimum of six keys to Owner's representative.

PART 3 – EXECUTION

3.01 EXAMINATION

A. Do not begin installation until substrates have been properly prepared.

B. If substrate preparation is the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.02 PREPARATION

A. Clean surfaces thoroughly prior to installation.

B. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.

3.03 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Install supports attached to building structure for equipment requiring supports.

C. Grab Bars: Install grab bars to withstand downward force of not less than 250 lbf per ASTM F 446.

D. Install equipment level, plumb, and firmly in place in accordance with manufacturer's rough-in drawings.

3.04 CLEANING AND PROTECTION

A. Protect installed products until completion of project.

B. Clean unit surfaces, and leave in ready-to-use condition.

C. Turn over keys, tools, maintenance instructions, and maintenance stock to Owner.

D. Touch-up, repair or replace damaged products before Substantial Completion.

3.05 TESTING AND ADJUSTING

A. Test each piece of equipment to assure proper operation, freedom of movement, and alignment. Install new batteries in battery-powered items.

B. Repair or replace malfunctioning equipment, or equipment with parts that bind or are misaligned.

END OF TOILET, BATH AND LAUNDRY ACCESSORIES

SECTION 22 00 00

PLUMBING

PART 1 – GENERAL

1.01 SUMMARY

A. This Section includes furnishing and installation of complete drainage, water supply, plumbing fixtures and other equipment as described herein and as indicated on the Drawings. It is the intent of contract documents to call for complete, finished work, fully tested and ready for continuous operation. The Plumbing Contractor shall provide all design build services as required to properly size all components for a complete system in accordance with the latest version of the State Plumbing Code.

A.

B. Includes connections to site sewer and water lines. Before starting any work, coordinate locations and elevations of building services with the Site utilities. Discrepancies, if any, shall be corrected as soon as possible.

C. Required water meters, backflow prevention devices and pits are to be provided by the contractor and coordinated with the authorities having jurisdiction as required.

D. Coordinate voltages of all electrical devices with electrical contractor.

E. Any apparatus, appliance, material or work not shown on the drawings by mention or reference in the specifications, or incidental accessories necessary to make the work complete and acceptable in all respects and ready for operation shall be furnished, delivered and installed under this section of the specifications without additional expense to the Owner.

F. Drawings are generally diagrammatic and are intended to convey scope of work and indicated general arrangements of equipment, piping, fixtures, etc.

1.02 SUBMITTALS

A. Submit product data for pipe, tube, fittings, equipment and couplings.

B. Submit field quality control reports.

C. Submit maintenance data for specialties and accessories to include in maintenance manuals.

D. Valve Schedules: For each piping system. Reproduce on standard-size bond paper. Tabulate valve number, piping system, system abbreviation as shown on tag, room or space location of valve, and variations for identification. Mark valves intended for emergency shutoff and similar special uses. Besides mounted copies, furnish copies for maintenance manuals.

1.03 QUALITY ASSURANCE

A. Piping materials shall bear label, stamp, or other markings of specified testing agency.

B. Comply with NSF 14, "Plastics Piping System Components and Related Materials," for plastic, potable domestic water piping and components.

C. Comply with NSF 61, "Drinking Water System Components – Health Effects; Section 1 through 9," for potable domestic water piping and components.

D. All materials, workmanship and equipment performance shall conform with the latest governing edition of the following standards, codes, specifications, requirements, and regulations:

1. All applicable NFPA standards.
2. State and local building codes and ordinances, and requirements of authorities having jurisdiction.
3. American Society of Mechanical Engineers (ASME).
4. American Society of Testing and Materials (ASTM).
5. American National Standards Institute (ANSI).
6. Underwriter's Laboratories, Inc. (UL).

E. All work shall be performed by or under the direct supervision of a plumber licensed in the State of New Hampshire. All existing plumbing shall be brought into compliance with the N.H. State Plumbing Code.

1.04 PROJECT CONDITIONS

A. Prior to submission of bids, trade contractors shall visit the site and/or review the related construction documents to determine the conditions under which the work is to be performed. Contractor shall report, in writing, to the Architect, any conditions which might adversely affect the contractor's ability to perform the Work.

1.05 WARRANTY

A. The trade contractor shall submit manufacturer's warranties for products as specified in this section.

B. All materials, types of equipment and workmanship furnished under this Section shall carry standard warranty against all defects in material and workmanship for a period of not less than one (1) year from date of Substantial Completion.

PART 2 – PRODUCTS

2.01 MANUFACTURERS

A. Basis of Design: Subject to compliance with requirements, provide products from one of the manufacturers specified in other Part 2 articles.

2.02 GENERAL MATERIALS

A. Water Hammer Arrestors: Install appropriately sized water hammer arrestors at fast closing positive shutoff valves to prevent water hammer.

B. Escutcheons: At all finished wall penetrations, provide chrome-plated, stamped steel, hinged, split-ring escutcheon with set screw. Inside diameter shall closely fit pipe outside diameter or outside of pipe insulation where pipe is insulated. Outside diameter shall completely cover the opening in floors, walls, or ceilings.

C. Unions: Malleable-iron, Class 150 for low pressure and class 250 for high pressure service; hexagonal stock, with ball-and-socket joints, metal-to-metal bronze seating surfaces; female threaded ends.

D. Dielectric Unions: Provide dielectric unions with appropriate end connections for the pipe materials in which installed (screwed, soldered, or flanged), which effectively isolate dissimilar metals, to prevent galvanic action, and stop corrosion.

2.03 GENERAL-DUTY VALVES

A. General:

1. Design: Rising stem or rising outside screw and yoke stems except as specified below.
   a. Nonrising stem valves may be used only where headroom prevents full extension of rising stems.
2. Pressure and Temperature Ratings: As required to suit system pressures and temperatures.
3. Sizes: Same size as upstream pipe, unless otherwise indicated.
4. Lever handles on all ball valves shall be color coded in conformance with ANSI Standard A13.1.
5. Subject to compliance with requirements, provide products from NIBCO Inc., Milwaukee Valve Company, Inc., Crane Company, or approved equal.

B. Gate Valves:

1. Gate Valves, 2-1/2 Inches and Smaller: MSS SP-80; Class 125, 200-psi cold working pressure (CWP), or class 150, 300-psi CWP; ASTM B 62 cast-bronze body and bonnet, solid-bronze wedge, copper-silicone alloy rising stem, Teflon-impregnated packing with bronze packing nut, threaded or soldered end connections; and with aluminum or malleable-iron handwheel.

C. Ball Valves:

1. Ball Valves, 4 inches and Smaller: MSS SP-110, Class 150, 600-psi CWP, ASTM B 584 bronze body and bonnet, 2-piece construction; chrome-plated brass ball, standard port for 1/2-inch valves and smaller and conventional port for 3/4-inch valves and larger; blowout proof; bronze or brass stem; Teflon seats and seals; threaded or soldered end connections:
   a. Operator: Vinyl-covered steel lever handle.
   b. Stem Extension: For valves installed in insulated piping.
   c. Memory Stop: For operator handles.

D. Check Valves:

1. Swing Check Valves, 2-1/2 Inches and Smaller: MSS SP-80; Class 125, 200-psi CWP, or Class 150, 300-psi CWP; horizontal swing, Y-pattern, ASTM B 62 cast-bronze body and cap, rotating bronze disc with rubber seat or composition seat, threaded or soldered end connections.
2. Swing Check Valves, 3 inches and Larger: MSS SP-71, Class 125, 200-psi CWP, ASTM A 126 cast-iron body and bolted cap, horizontal-swing bronze disc, flanged or grooved end connections.
3. Wafer Check Valves: Class 125, 200-psi CWP, ASTM A 126 cast-iron body, bronze disc/plates, stainless-steel pins and springs, Buna N seals, installed between flanges.
4. Lift Check Valves: Class 125, ASTM B 62 bronze body and cap (main components), horizontal or vertical pattern, lift-type, bronze disc or Buna N rubber disc with stainless-steel holder threaded or soldered end connections.

E. Drain Valves: Chrome plated, bronze body with interchangeable solid bronze wedge and screwed-in bonnet, with hose thread end, brass cap and chain, 200 psi.

2.04 HANGERS AND SUPPORTS

A. Hangers for pipe up to and including 4-inches shall be swivel ring, split ring, wrought pipe clamp, band, or adjustable wrought clevis type. Hangers for pipes above 4-inches shall be standard clevis or roller.

B. Saddles and Shields: Provide saddles and shields under piping hangers and supports, factory-fabricated, for all insulated piping. Size saddles and shields for exact fit to mate with pipe insulation.

2.05 VIBRATION AND SEISMIC CONTROLS

A. Vibration and seismic control devices, manufactured and approved for use, shall be provided as required and as suitable for use and service.

B. Where seismic restraints are required, the Contractor shall provide calculations, details and locations that are stamped by a professional engineer.

2.06 IDENTIFICATION

A. Provide pipe markers, line markers, valve tags, valve schedule frames, and equipment markers complying with ANSI A13.1 for lettering size, length of color field, colors, and installed viewing angles of identification devices.

B. Plastic Pipe Markers:

1. Snap-On Type: Provide manufacturer’s standard pre-printed, semi-rigid, snap-on, color-coded, pipe markers.
2. Pressure-Sensitive Type: Provide manufacturer’s standard pre-printed, permanent adhesive, color-coded, pressure-sensitive vinyl pipe markers.
3. Install every 40-feet and at each change in direction.

C. Plastic Valve Tags: Provide manufacturer's standard solid plastic valve tags with printed enamel lettering, with piping system abbreviation in approximately 3/16-inch high letters and sequenced valve numbers approximately 3/8-inch high, and with 5/32-inch hole for fastener.

D. Valve Tag Fasteners: Manufacturer's standard solid brass chain (wire link or beaded type), or solid brass S-hooks of the sizes required for proper attachment of tags to valves, and manufactured specifically for that purpose.

E. Plastic Equipment Markers: Provide manufacturer's standard laminated plastic, color coded equipment markers.

2.07 PLUMBING INSULATION

A. All insulation shall be UL approved for a Flame Spread Rating of not more than 25 and a Smoke Developed Rating of not over 50.

B. All insulation shall conform to requirements of the International Energy Conservation Code (IECC) currently adopted edition.

C. Pipe insulation shall be fiberglass with ASJ and Zeston fittings or flexible elastomeric thermal insulation.

1. Cold water shall be 1/2-inch.
2. Hot water and hot water return shall be 1-inch.
3. Roof drain bodies shall be 1-inch.
4. Drain piping connected to roof drains shall be 1-inch.

2.08 WATER PIPING

A. Aboveground Domestic Water Piping:

1. Copper: Hard drawn copper tube Type "L" with wrought fittings soldered with lead free solder.

2.09 SANITARY WASTE AND VENT PIPING

A. Aboveground Sanitary and Storm Pipe Fittings:

1. PVC: Schedule 40 PVC with DWV fittings.

2.10 PLUMBING FIXTURES

A. Provide plumbing fixtures scheduled, at locations indicated on Drawings.

B. Provide required trim for each fixture including faucets, stops, drains, tail pieces, traps and escutcheons.

C. Exposed Pipe: Exposed flush, waste and supply pipes at fixtures shall be chromium plated brass pipe, iron pipe size.

D. Vandalproofing: Provide vandalproof fittings for all fixtures located in areas accessible to the public.

PART 3 – EXECUTION

3.01 GENERAL

A. Escutcheons: Install pipe escutcheons for pipe penetrations of wall, ceiling and floor construction.

3.02 GENERAL-DUTY VALVE INSTALLATION

A. Install valves as indicated, according to manufacturer's written instructions.

B. Install valves with unions or flanges at each piece of equipment arranged to allow servicing, maintenance, and equipment removal without system shutdown.

C. Locate valves for easy access and provide separate support where necessary.

D. Install valves in horizontal piping with stem at or above the center of the pipe.

E. Install valves in a position to allow full stem movement.

F. General Application: Use gate, ball, and butterfly valves for shutoff duty; globe, ball, and butterfly for throttling duty.

3.03 HANGER AND SUPPORT INSTALLATION

A. General: Comply with MSS SP-69 and SP-89. Install hangers, supports, clamps, and attachments as required to properly support piping from building structure.

B. Install hangers and supports complete with necessary inserts, bolts, rods, nuts, washers, and other accessories.

C. Install hangers and supports to allow controlled movement of piping systems, permit freedom of movement between pipe anchors, and facilitate action of expansion joints, expansion loops, expansion bends, and similar units.

D. All hanger materials shall be same material as the pipe or compatible (no dialectric reactions).

E. There shall be no contact between stud walls or studs and piping, provide PVC spacers as required.

3.04 INSULATION INSTALLATION

A. Tightly butt longitudinal seams and end joints. Bond with adhesive.

B. Stagger joints on double layers of insulation.

C. Apply insulation continuously over fittings, valves, and specialties, except as otherwise indicated.

D. Apply insulation with minimum number of joints.

E. Apply insulation with integral jackets as follows:

1. Pull jacket tight and smooth.
2. Double cover circumferential joints with butt strips, at least 4-inches wide, and of same materials as insulation jacket. Secure with adhesive and outward clinching staples along both edges of butt strip and space 4-inches on center.
3. Longitudinal Seams: Overlap seams at least 1-1/2 inches. Apply insulation with longitudinal seam at bottom of pipe. Clean and dry surface to receive self-sealing lap. Staple laps with outward clinching staples along edge at 4-inches on center.

F. Flanges, Fittings, and Valves – Interior Exposed and Concealed: Coat pipe insulation ends with vapor barrier coating. Apply premolded, precut, or field-fabricated segments of insulation around flanges, unions, valves, and fittings. Make joints tight. Bond with adhesive.

G. Hangers and Anchors: Apply insulation continuously through hangers and around anchor attachments. Install saddles, shields, and inserts. For cold surface piping, extend insulation on anchor legs a minimum of 12 inches and taper and seal insulation ends.

3.05 PIPING INSTALLATION

A. All water piping must be carefully pitched to facilitate complete seasonal drain-back of the water system. Water piping shall be run parallel and graded evenly to the drainage points. There shall be a 1/2-inch boiler tap type drain valve provided for each low point in the piping, so that all parts of each water system can be readily drawn-off.

B. Install components having pressure rating equal to or greater than system operating pressure.

C. Install piping in concealed interior and exterior locations, except in equipment and service areas.

D. Install exposed interior and exterior piping at right angles or parallel to building walls. Diagonal runs are prohibited, except where indicated.

E. Service Entrance Piping: Install shutoff valve, hose-end drain valve, strainer, pressure gage, and test tee with valve, inside building at each service entrance pipe.

F. Water Meters: Rough-in water piping for water meter installation according to utility company's requirements or Division of Parks Standards. Water meter will be furnished by the Contractor as part of this Work.

G. Connect water distribution piping to service entrance piping at shutoff valve, and extend to and connect to the following:

1. Water Heaters: Connect cold-water supply and hot-water outlet piping in sizes required but not smaller than sizes of water heater connections.

2. Plumbing Fixtures: Connect Hot- and cold-water supply piping in sizes required, but not smaller than required by plumbing code.
3. Equipment: Connect hot- and cold-water supply piping as required. Provide shutoff valve and union for each connection.

H. Valve Installation:

1. Sectional Valves: Install sectional valves close to main on each branch and riser serving plumbing fixtures or equipment, and where indicated. Use only ball valves for piping 2-inch NPS and smaller. Provide valves to isolate each bathroom.
2. Shutoff Valves: Install shutoff valve on each water supply to equipment, on each supply to plumbing fixtures without supply stops, and where indicated. Provide shut-off valves for each individual plumbing fixture. Use only ball valves for piping 2-inch NPS and smaller.
3. Drain Valves: Install drain valves for equipment, at base of each water riser, at low points in horizontal piping, and where required to drain water piping.
   a. Install hose-end drain valves at low points in water mains, risers, and branches.

3.06 WASTE AND VENT PIPING INSTALLATION

A. Extend building sanitary drain piping and connect to sanitary sewer piping in sizes and locations indicated for service entrances into building. Install cleanout and extension to grade at connections of building sanitary drains with building sanitary sewers.

B. Make changes in direction for drainage and vent piping using appropriate branches, bends, and long-sweep bends. Sanitary tees for short-sweep 1/4 bends may be used on vertical stacks if change in direction of flow is from horizontal to vertical. Use long-turn, double Y-branch and 1/8-bend fittings if 2 fixtures are installed back to back or side by side with common drain pipe. Straight tees, elbows, and crosses may be used in vent lines. Do not make change in direction of flow greater than 90 degrees. Use proper size of standard increasers and reducers if different sizes of piping are connected. Reducing size of drainage piping in direction of flow is prohibited.

C. Install drainage and vent piping at the following minimum slopes, unless otherwise indicated:

1. Sanitary Building Drain: 2 percent downward in direction of flow for piping 3-inch NPS and smaller; 1 percent downward in direction of flow for piping 4-inch NPS and larger.
2. Horizontal, Sanitary Drainage Piping: 2 percent downward in direction of flow.
3. Vent Piping: 1 percent down toward vertical fixture vent or toward vent stacks.

D. Connect service entrance piping to exterior sewerage and drainage piping. Use transition fitting to join dissimilar materials.

E. Connect drainage piping to service entrance piping, and extend to and connect to the following:

1. Plumbing Fixtures: Connect drainage piping in sizes required, but not smaller than required by plumbing code.
2. Plumbing Specialties: Connect drainage and vent piping in sizes required, but not smaller than required by plumbing code.

3. Equipment: Connect drainage piping as require. Provide shutoff valve and union for each connection. Use flanges instead of unions for connections 2-1/2 inch NPS and larger.

3.07 FIXTURE INSTALLATION

A. Install fixtures level and plumb according to manufacturers' written instructions, roughing-in drawings, and referenced standards.

B. Secure supplies to supports or substrate within pipe space behind fixture.

C. Install individual stop valve in each water supply to fixture. Use gate or globe valve where specific stop valve is not specified.

D. Install water-supply stop valves in accessible locations.

E. Seal joints between fixtures and walls, floors, and counters using sanitary-type, 1-part, mildew-resistant, silicone sealant according to sealing requirements in Section 07 92 00 "Joint Sealants". Match sealant color to fixture color. Seal in accordance to the requirements of the International Plumbing Code.

3.08 TESTING

A. Test service entrance piping and water distribution piping as follows:

1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
2. Leave uncovered and unconcealed new, altered, extended, or replaced water piping until it has been tested and approved. Expose work that has been covered or concealed before it has been tested and approved.
3. Cap and subject piping to static water pressure of 50 psig above operating pressure, without exceeding pressure rating of piping system materials. Isolate test source and allow to stand for 4 hours. Leaks and loss in test pressure constitute defects that must be repaired.
4. Repair leaks and defects with new materials and retest piping or portion thereof until satisfactory results are obtained.
5. Prepare reports for tests and required corrective action.

B. Test drainage and vent piping according to procedures of authorities having jurisdiction or, in absence of published procedures, as follows:

1. Test for leaks and defects in new piping and parts of existing piping that have been altered, extended, or repaired. If testing is performed in segments, submit separate report for each test, complete with diagram of portion of piping tested.
2. Leave uncovered and unconcealed new, altered, extended, or replaced drainage and vent piping until it has been tested and approved. Expose work that has been covered or concealed before it has been tested and approved.
3. Roughing-In Plumbing Test Procedure: Test drainage and vent piping, except outside leaders, on completion of roughing-in. Close openings in piping system and fill with water

to point of overflow, but not less than 10 feet of head. Water level must not drop from 15 minutes before inspection starts through completion of inspection. Inspect joints for leaks.

4. Finished Plumbing Test Procedure: After plumbing fixtures have been set and traps filled with water, test connections and prove they are gastight and watertight. Plug vent-stack openings on roof and building drains where they leave building. Introduce air into piping system equal to pressure of 1-inch wg. Use U-tube or manometer inserted in trap of water closet to measure this pressure. Air pressure must remain constant without introducing additional air throughout period of inspection. Inspect plumbing fixture connections for gas and water leaks.
5. Repair leaks and defects with new materials and retest piping or portion thereof until satisfactory results are obtained.
6. Prepare reports for tests and required corrective action.

3.09 CLEANING AND DISINFECTION

A. Clean and disinfect potable service entrance piping and water distribution piping as follows:

1. Use purging and disinfecting procedure prescribed by the National Standard Plumbing Code or as directed by the Water Department, whichever is the more stringent, or procedure described in either AWWA C651 or AWWA C652 or as described below:
   a. Flush piping system with clean, potable water until dirty water does not appear at outlets.
   b. Fill and isolate system according to either of the following:
      1) Fill system or part thereof with water/chlorine solution with at least 50 ppm of chlorine. Isolate with valves and let stand for 24 hours.
      2) Fill system or part thereof with water/chlorine solution with at least 200 ppm of chlorine. Isolate and allow to stand for 3 hours.
   c. Flush system with clean, potable water until chlorine is no longer in water coming from system after the standing time.
   d. Submit water samples in sterile bottles to authorities having jurisdiction. Repeat procedure if biological examination shows contamination.
2. Prepare and submit reports for purging and disinfecting activities.
3. Clean interior of piping system. Remove dirt and debris as work progresses.

END OF PLUMBING

SECTION 26 00 00

ELECTRICAL

PART 1 – GENERAL

1.01 DESCRIPTION

A. Provide all labor, materials, equipment, services, etc. required to furnish and install all Electrical systems as indicated on the Drawings, Specified herein, or otherwise required for a complete and proper job. The Electrical Contractor shall provide all design build services as required to properly size all equipment and accessories for a complete system in accordance with the latest version of the State Electrical Code.

1. The Work shall include, but shall not necessarily be limited to:
    a. Electrical service entrance
    b. Electrical service
    c. Panelboards
    d. Conductors and grounds
    e. Wiring devices and plates

B. The information shown on the Drawings is diagrammatic only and indicates the general arrangement of systems and equipment. Basic design concepts must be followed or bettered. The Contractor shall be responsible for coordinating and designing a complete and functional system.

C. Coordinate utility service work with local utility companies, general contractor, building conditions and site conditions prior to installation. Provide advance coordination as required for timely connections of temporary and permanent services. Contact utility companies prior to submission of bid. Include all utility fees and costs related to this project in bid.

1.02 ACTION SUBMITTALS

A. Product Data: For all products, equipment and materials.

1.03 QUALITY ASSURANCE

A. All material and equipment shall bear a certification of a national certifying organization such as Underwriters Laboratory or Factory Mutual and be installed according to the National Electric Code, local rules and regulations and all other codes and standards listed elsewhere in these Specifications or on the Drawings.

B. Execute work in a neat and workmanlike manner in conformance with best modern trade practice, (i.e. IEEE, NEC, ANSI, NFPA, NEMA) by competent, experienced, licensed electricians, presenting a neat appearance when completed. Replace work not approved by Owner's representative without additional charge.

1.04 DELIVERY, STORAGE AND HANDLING

A. All materials and related accessories shall be delivered and stored in strict compliance with the manufacturer's instructions.

B. Materials shall be delivered to the site in the original sealed containers or packages bearing the manufacturer's name and brand designation. All materials shall be stored in a clean, well-ventilated, warm area. Care shall be exercised in handling materials during delivery, storage and installation.

1.05 WARRANTY

A. The Contractor shall warranty all materials and installations under normal use to be free from defects and poor workmanship for a period of one (1) year from the date of Substantial Completion. Any replacement of parts or adjustments, including labor made necessary by inherent defects, shall be provided by the Contractor without cost to the Owner within the warranty period.

1.06 CODES AND STANDARDS

A. The complete installation shall be in compliance with the New Hampshire State Building Code, NFPA and other applicable rules and regulations prescribed by the authority having jurisdiction.

PART 2 – PRODUCTS

2.01 MATERIALS, GENERAL

A. Unless otherwise indicated, the materials to be furnished under this Section shall be the standard products of manufacturer's regularly engaged in the production of such equipment and shall be the manufacturer's latest standard design that complies with the Specification requirements.

B. Source Limitation: Obtain products from a single source from a single manufacturer.

2.02 GROUNDING

A. Furnish and install grounding systems conforming to IEEE std. 142-1982 and 241. Comply with requirements of NEC, Article 250 pertaining to electrical grounding system. Comply with applicable requirements of U.L. Standards numbers 467 and 869 pertaining to electrical grounding and bonding. Provide grounding products which are U.L. listed and labeled.

B. Provide electrical grounding systems required including but not limited to cables, wires, connectors, terminals (solderless lugs), grounding rods/electrodes, plate electrodes, bonding jumper braid, surge arrestors, and additional accessories needed for complete installation.

C. Provide electrical bonding plates, connectors, terminals, lugs, and clamps as recommended by manufacturer for required applications.

D. Ground rods shall be solid copper 5/8-inch diameter and 10-feet long.

E. Upon completion of installation of electrical grounding systems, test ground resistance. Where tests show resistance to ground is over 3 ohms take appropriate action to reduce resistance to 3

ohms or less by driving additional ground rods and/or by chemically treating soil encircling ground rod. Then retest to demonstrate compliance.

F. All feeder, subfeeders, lighting branch circuits and all receptacle circuits shall contain a grounding conductor minimum No. 12 copper with green insulation.

G. Grounding terminal on receptacles shall be bonded to outlet box with grounding conductor to establish grounding continuity.

H. Flexible conduit and electric metallic tubing feeder raceways shall include grounding conductor.

I. Grounding conductors shall be stranded copper wire with THHN green insulation.

J. Grounding bushings shall be provided for all raceways.

2.03 PANELBOARDS

A. Panelboard cabinets shall be of the dead-front or safety type, provided with the size and number of single, double or triple pole branches required. Cabinets shall be constructed of zinc coated steel and shall conform to Underwriters Laboratories, Inc. Standard for Cabinets and Boxes. Cabinet height shall not exceed 72-inches and shall be mounted so that the distance from the floor to center of the top circuit breaker will not exceed 72-inches. Cabinets shall be provided with trims having adjustable trim clamps. Trims shall be fitted with hinged doors. A directory shall be mounted in each frame.

B. Panelboards shall be surface mounted with branch circuit breakers and main breaker as required.

C. Panel with main breaker shall be Cutler Hammer, “BR Load Center” or approved equal. Panel shall accommodate a single phase, 125 amp service and have space for minimum 20 circuits.

D. All branch circuit breakers installed in the panels shall have a minimum short circuit rating as indicated on the panel diagram. Provide factory-assembled molded case circuit breakers of frame size required. Provide breakers with permanent thermal and instantaneous magnetic trips in each pole and with 10,000 AIC minimum fault current limiting protection and ampere rating as required. Construct with over center, trip free, toggle type operating mechanisms with quick make, quick break actions and positive handle trip indication. Provide breaker with mechanical screw type removable connector lugs, AL/CU rated.

E. At indicated circuits provide circuit breaker with integral ground fault interrupter with 5 milliamperes ground fault trip level.

2.04 WIRING IN CONDUIT

A. Type MC (metal clad cable) shall be used for branch circuits including power, lighting and control per NEC.

B. Electrical metallic tubing (EMT) shall be used for all feeders and empty conduit systems. EMT may be used for branch circuits including power, lighting and control per NEC. EMT shall not be

used where subject to water or moisture conditions. Threadless couplings and connectors used with EMT shall be made up tight. Minimum size of conduit to be 3/4-inch.

2.05 CONDUCTORS

A. All conductors installed in raceway shall be insulated, type THW or THWN, 600 volt service, within building and for secondaries. All such wiring shall be color coded. Conductors with higher insulation temperature ratings shall be provided as required.

B. Joints and splices shall be made in a manner equivalent electrically and mechanically to the conductor itself. Connections shall be of the compression type.

C. Where receptacles or convenience outlets are specified to serve equipment, furnish, install and connect approved flexible cable and cap to equipment.

D. Make all final connections, flexible or fixed as required to all equipment shown requiring final electrical connections.

2.06 WIRING DEVICES

A. Switches, receptacles and other utilization devices shall be as manufacture by Leviton, General Electric, Hubbell or approved equal. Symbols and nomenclature is that of Leviton. Switches shall have a minimum rating of 20 amperes.

B. All receptacles and switches shall have a grounding pole and grounding terminal, which shall be connected to the outlet box with grounding conductor to establish grounding continuity.

C. Verify mounting height of all devices prior to roughing.

D. Provide heavy-duty duplex receptacles, 2 pole, 3 wire grounding, 20 amperes, 125 volts, with metal plaster ears, back and side wiring, NEMA configuration 5-20R.

E. Provide device plates for all devices, switches, and receptacles and miscellaneous outlets. Plates shall be stainless steel with ganging and cut-outs appropriate to the indicated circuiting.

2.07 PULL BOXES AND JUNCTION BOXES

A. Pull boxes and junction boxes shall be of code gauge galvanized steel with screw covers to match, shall be as required and shall be as shown on the Drawings.

B. Conductors passing through pull boxes shall be identified to indicate their origin and termination.

C. Pull and junction boxes and covers shall be for indoor use, except provide other types as required because of location.

D. Covers shall not be installed until installation has been observed. Provide nameplate on cover.

2.08 NAMEPLATES

A. Provide nameplates for panelboards, switch panels, relays, empty raceways, contactors, pull boxes, junction boxes, motor disconnect switches, and remote switches designating equipment controlled and function.

2.09 OUTLETS

A. Outlets shall be centered in panels and spaces provided therefore.

B. Where outlets of any system occur provide suitable boxes and conduit so that they may be built in as the work progresses. Box offsets shall be made at all outlets to provide proper adjustment to structural finish.

C. Receptacle outlet boxes shall have factory installed grounding conductor which shall be connected to receptacle grounding terminal.

D. Fixture outlet boxes shall have 3/8-inch solid male fixture studs.

E. Raised covers in open frame construction where no other finish is to be applied, shall have 90 degree corners and edges. Boxes in wall panel finish shall have raised stainless steel covers with rounded edges and corners.

F. Exposed outlet boxes shall have threaded conduit hubs.

2.10 LIGHTING FIXTURES AND LAMPS

A. Fixtures shall be complete with all accessories such as close nipples, extension couplings, connecting straps, screws, locknuts, hickies and plaster rings, to provide complete fixture installation for use with any type of standard outlet or switch box. Special fittings required to support fixtures shall be supplied.

B. Fixture Schedule: As indicated on Drawings.

2.11 TERMINAL STRIPS

A. All terminal strips for electrical wiring shall be mounted on a separate 3/8-inch select grade backboard within cabinets or boxes. All terminal strips shall be rated for the ampacity of the wire intended to be connected, but in no case less than twenty amps. All terminal strips shall be identified and each wire at every terminal shall be identified by means of a Brady wire tag.

2.12 SAFETY SWITCHES

A. Safety switches shall be heavy duty, with ampere rating number of poles, fusible or non-fusible as indicated or required. Manufacturer shall be ITE, G.E., Sylvania, Square D or Westinghouse.

PART 3 – EXECUTION

3.01 RACEWAYS AND CONDUIT

A. Raceways shall be supported and secured at intervals of not more than 10 feet, with minimum of two supports. Tie wire or perforated metal straps shall not be used to support or secure raceways or other equipment. Electric metallic tubing shall be supported within 18-inches of each coupling or connector. In finished areas, furnish and install escutcheons for all exposed conduit passing through or entering finished floors or walls.

B. Raceways shall have runs installed parallel or perpendicular to walls, structural members or intersections of vertical planes and ceilings. Field-made bends and offsets shall be avoided where possible, but where necessary, shall be made within an approved hickey or conduit bending machine. Crushed or deformed raceways shall not be installed. Trapped raceways shall be avoided. Care shall be taken to prevent the lodgement of plaster, dirt or trash in raceway boxes, fittings and equipment during the course of construction. Clogged raceways shall be entirely free of obstructions or shall be replaced. Wooden plugs inserted in concrete or masonry are not acceptable as a base for raceway fastenings nor shall raceways or pipe straps be welded to steel structures. Raceways shall be secured by pipe straps or shall be supported by wall brackets, strap hangers or ceiling trapeze fastened by wood screws on wood, toggle bolts on hollow units, expansion bolts on concrete or brick and machine screws or welded studs on steel work.

3.02 OUTLETS

A. Each outlet in the wiring or raceway systems shall be provided with an outlet box to suit the conditions encountered. Each box shall have sufficient volume to accommodate the number of conductors entering the box in accordance with the requirements of the National Electric Code. Boxes shall not be less than 1-1/2 inches deep unless shallower boxes are required by structural conditions and are specifically approved.

B. Ceiling and bracket outlet boxes shall be not less than 4-inches except smaller boxes may be used where required by the particular fixture to be installed. Boxes shall be installed in a rigid and satisfactory manner and shall be fastened directly with wood screws on wood; bolts and expansion shield on concrete or brick; toggle bolts on hollow masonry units and machine screws or welded threaded studs on steel work. Threaded studs driven in by a powder charge and provided with lock washers and nuts are acceptable in lieu of wood screws, expansion shields or machine screws if permitted by local authorities.

3.03 FIXTURES

A. All fixtures shall be supported by building structural elements independent of furred or suspended ceilings.

B. The minimum number of supports for surface mounted or suspended fixtures shall equal one for each 48-inches of length plus one additional support. Additional supports shall be provided if required.

END OF ELECTRICAL