

Project Manual

for

Rockland District Courthouse
Rockland, Maine

Involving

**- HW Boiler Replacement -
Project**

- Owner -

**STATE OF MAINE JUDICIAL BRANCH
125 Presumpscot Street
Portland, Maine 04103**

**B.G.S. Project: # 3964
AE Project: #2026.06.18
August 1, 2026**

- Designer -

***Armstrong Engineering
94 Presque Isle Street
Fort Fairfield, Maine 04742
473-7117***



ARMSTRONG ENGINEERING

SECTION 00 00 05

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END OF SECTION

00 11 13
Notice to Contractors

Rockland District Courthouse – HW Boiler Project BGS Project # 3964

The proposed construction project would consist of replacing two existing HW Boilers and associated mechanical piping and sundries. The cost of the work is approximately \$360,000.

The contract shall designate the Substantial Completion Date on or before *10 October 2026*, and the Contract Final Completion Date on or before *10 November 2026*.

1. Submit bids on a completed Contractor Bid Form (section 00 41 13), provided in the Bid Documents, include bid security when required, and scan each item as an attachment to an email addressed to: BGS.Architect@Maine.gov, so as to be received no later than **1:30:00 p.m. on 1 September 2026**. The email subject line shall be marked "**Bid for Rockland District Courthouse - HW Boiler Project (BGS 3964)**".

Bid submissions will be opened and read aloud at **2:00 p.m.** on the date noted above at the Bureau of General Services office, accessible as a video conference call. Those who wish to participate in the call may find the link at <https://www.maine.gov/dafs/bgs/business-opportunities#invitationforbid>.

Any bid received after the noted time will not be considered a valid bid and will remain unopened. Any bid submitted by any other means will not be considered a valid bid. In certain circumstances, the Bureau of General Services may require the Bidder to surrender a valid paper copy of the bid form or the bid security document. The Owner reserves the right to accept or reject any or all bids as may best serve the interest of the Owner.

2. Questions and comments on the *bid opening process* shall be addressed to: Division of Planning, Design & Construction, Bureau of General Services, 77 State House Station, Augusta, Maine 04333-0077, BGS.Architect@Maine.gov.

3. Questions and comments regarding the *project* design specifications or drawings shall be directed in writing to the Consultant during the bid period prior to the question and comment deadline of 5:00 p.m. on *25 August 2026*.

Armstrong Engineering

Jeff Armstrong

207-473-7117 or email: jmarmstrong@armstrongeng.com

4. ☒ Bid security is required on this project.
The Bidder shall include a satisfactory Bid Bond (section 00 43 13) or a certified or cashier's check for 5% of the bid amount with the completed bid form submitted to the Owner. The Bid Bond form is available on the BGS website.

or

☐ Bid security is not required on this project.

00 11 13
Notice to Contractors

6. ☒ Performance and Payment Bonds are required on this project.
If noted above as required, or if any combination of Base Bid and Alternate Bids amounts selected in the award of the contract exceeds \$125,000.00, the selected Contractor shall furnish a 100% contract Performance Bond (section 00 61 13.13) and a 100% contract Payment Bond (section 00 61 13.16) in the contract amount to cover the execution of the Work. Bond forms are available on the BGS website.
or
☐ Performance and Payment Bonds are not required on this project.
7. Filed Sub-bids *are not required* on this project.
8. ☐ Pre-qualified General Contractors are utilized on this project.
insert the company name, city and state for each
or
☒ Pre-qualified General Contractors are not utilized on this project.
9. ☐ An on-site pre-bid conference (☐ *mandatory* or ☐ *optional*) will be conducted for this project. The pre-bid conference is intended for General Contractors. Subcontractors and suppliers are welcome to attend. Contractors who arrive late or leave early for a mandatory meeting may be prohibited from participating in this meeting and bidding.

or
☒ An on-site pre-bid conference will not be conducted for this project.
10. Bid Documents - full sets only - will be available on or about *19 August 2026* and may be obtained *at no cost* from:
Bureau of General Services
<https://www.maine.gov/dafs/bgs/business-opportunities#invitationforbid>
11. Bid Documents may be examined at:
- | | |
|---|--|
| <i>AGC Maine</i>
<i>188 Whitten Road, Augusta, ME 04330</i>
<i>207-622-4741</i> | <i>Construction Summary</i>
<i>734 Chestnut Street, Manchester, NH 03104</i>
<i>603-627-8856</i> |
|---|--|

00 21 13
Instructions to Bidders

1. Bidder Requirements

- 1.1 A bidder is a Contractor which is evidently qualified, or has been specifically pre-qualified by the Bureau of General Services, to bid on the proposed project described in the Bid Documents.
- 1.2 Contractors and Subcontractors bidding on projects that utilize Filed Sub-bids shall follow the requirements outlined in these Bid Documents for such projects. See Section 00 22 13 for additional information.
- 1.3 Contractors and Subcontractors are not eligible to bid on the project when their access to project design documents prior to the bid period distribution of documents creates an unfair bidding advantage. Prohibited access includes consultation with the Owner or with design professionals engaged by the Owner regarding cost estimating, constructability review, or project scheduling. This prohibition to bid applies to open, competitive bidding or pre-qualified contractor bidding or Filed Sub-bidding. The Bureau may require additional information to determine if the activities of a Contractor constitute an unfair bidding advantage.
- 1.4 Each bidder is responsible for becoming thoroughly familiar with the Bid Documents prior to submitting a bid. The failure of a bidder to review evident site conditions, to attend available pre-bid conferences, or to receive, examine, or act on addenda to the Bid Documents shall not relieve that bidder from any obligation with respect to their bid or the execution of the work as a Contractor.
- 1.5 Prior to the award of the contract, General Contractor bidders or Filed Sub-bidders may be required to provide documented evidence to the Owner or the Bureau showing compliance with the provisions of this section, their business experience, financial capability, or performance on previous projects.
- 1.6 The selected General Contractor bidder will be required to provide proof of insurance before a contract can be executed.
- 1.7 Contracts developed from this bid shall not be assigned, sublet or transferred without the written consent of the Owner.
- 1.8 By submitting a bid the Contractor attests that it has not been declared ineligible to bid on State of Maine projects. The Director of the Bureau of General Services may disallow award of this contract to any Contractor if there is evidence that the Contractor or any of its Subcontractors, through their own fault, have been terminated, suspended for cause, debarred from bidding, agreed to refrain from bidding as part of a settlement, have defaulted on a contract, or had a contract completed by another party.
- 1.9 The Contractor attests that it is not presently indicted for or otherwise criminally or civilly charged by a Federal, State or local government entity with commission of any of the following offenses and has not within a three-year period preceding this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction, or contract under a public transaction, violation of Federal or State anti-trust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

00 21 13
Instructions to Bidders

- 1.10 The Contractor shall not make any award or permit any award (subgrant or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs or State of Maine projects.
2. Authority of Owner
 - 2.1 The Owner reserves the right to accept or reject any or all bids as may best serve the interest of the Owner.
 - 2.2 Subject to the Owner's stated right to accept or reject any or all bids, the Contractor shall be selected on the basis of the lowest dollar value of an acceptable Base Bid, or any combination of Base Bid plus Alternate Bids, as well as other limited cost modifications the Owner determines may best serve the interests of the Owner. An acceptable bid is a duly submitted bid from a responsive and responsible bidder.
 - 2.3 The Owner reserves the right to require Bid Bonds or Performance and Payment Bonds for any project of any contract value.
3. Submitting Bids and Bid Requirements
 - 3.1 Each bid shall be submitted on the forms provided in the Bid Documents.
 - 3.2 Each bid shall be valid for a period of thirty calendar days following the Project bid closing date and time. The bid expiration date may be extended in unusual circumstances by mutual consent of the Bidder and the Owner. The bid amount shall not be modified due to the bid expiration date extension.
 - 3.3 Any provision contained in a bid which shows cost escalation, or any modification of schedule or other requirements shall not be accepted. Such a provision causes the bid to be invalid, or, at the discretion of the Owner and BGS, that element of the bid submission may be disregarded for the purpose of awarding the contract without that provision.
 - 3.4 Bidders shall include a Bid Bond or other approved bid security with the bid form submitted to the Owner when the bid form indicates such bid security is required. The bond value shall be 5% of the bid amount. The form of bond is shown in section 00 43 13.
 - 3.5 Bidders recognize that inclusion of contract bonds and the cost of those bonds is dependent on the awarded contract dollar value. Therefore, a Base Bid, or any combination of Base Bid plus Alternate Bids, as well as other limited cost modifications, resulting in a contract award shall include the cost of Performance and Payment Bonds in the submitted bid amount when the construction contract value is over \$125,000.00. Similarly, the cost of Performance and Payment Bonds is excluded in the submitted bid amount when the construction contract value is \$125,000.00 or less unless bonds are specifically required by the Bid Documents. When required for the project, the selected Contractor shall provide these bonds before a contract can be executed, pursuant to 14 M.R.S.A., Section 871, Public Works Contractors' Surety Bond Law of 1971, subsection 3. The form of bonds is shown in section 00 61 13.13 and 00 61 13.16.

00 21 13
Instructions to Bidders

- 3.6 Bidders may modify bids in writing, by the same means as the original bid submission, prior to the bid closing time. Such written amendments shall not disclose the amount of the initial bid. If so disclosed, the entire bid is considered invalid.
- 3.7 Bidders implicitly acknowledge all Addenda issued when they submit the bid form. By usual practice the Consultant shall not issue Addenda less than 72 hours prior to the bid closing time, to allow ample time for bidders to incorporate the information. However, some information, such as extending the bid due date and time, may be issued with shorter notice. Addenda shall be issued to all companies who are registered holders of Bid Documents.
- 3.8 A bid may be withdrawn without penalty if a written request by the bidder is presented to the Owner prior to the bid closing time. Such written withdrawal requests are subject to verification as required by the Bureau.
- A bid may be withdrawn without penalty after the bid closing time if, in the determination of the Bureau, evidence provided by the Contractor shows an apparent unintended error such as a miscalculation, or an erroneous number on estimating documents, was the cause of an inaccurate bid. The Bureau may allow withdrawal in consideration of the bid bond or, without utilizing a bid bond, if the Bureau considers documented evidence provided by the Contractor shows factual errors had been made on the bid form.
- 3.9 In the event State of Maine Offices unexpectedly close on the published date of a public bid opening in the location of that bid opening, prior to the time of the scheduled deadline, the new deadline for the public bid opening will be the following business day at the originally scheduled hour of the day, at the original location. Official closings are posted on the State of Maine government website.
- 3.10 The Owner may require, in a Notice of Intent to Award letter to the apparent low bidder, a Schedule of Values, Project Schedule, and List of Subcontractors and Suppliers as both a demonstration of capability of the Bidder and as a condition of award.
- 3.11 Projects which require a State of Maine wage determination will include that schedule as part of the Bid Documents. See section 00 73 46, if such rates are required.
- 3.12 Projects which require compliance with the Davis-Bacon Act are subject to the regulations contained the Code for Federal Regulations and the federal wage determination which is made a part of the Bid Documents. See section 00 73 46, if such rates are required.
- 3.13 The Owner is exempt from the payment of Maine State sales and use taxes as provided in 36 M.R.S. §1760 (1). The Contractor and Subcontractors shall not include taxes on exempt items in the construction contract.

00 41 13
Contractor Bid Form

Rockland District Courthouse - HW Boiler Project

BGS Project #3964

Bid Form submitted by: email only to email address below.

Bid Administrator:

David Machon

BGS.Architect@Maine.gov

Bureau of General Services

111 Sewall Street, Cross State Office Building, 4th floor

77 State House Station

Augusta, Maine 04333-0077

Bidder:

Signature: _____

Printed name and
title: _____

Company name: _____

Mailing address: _____

City, state, zip code: _____

Phone number: _____

Email address: _____

State of
incorporation,
if a corporation: _____

List of all partners,
if a partnership: _____

The Bidder agrees, if the Owner offers to award the contract, to provide any and all bonds and certificates of insurance, as well as Schedule of Values, Project Schedule, and List of Subcontractors and Suppliers if required by the Owner, and to sign the designated Construction Contract within twelve calendar days after the date of notification of such acceptance, except if the twelfth day falls on a State of Maine government holiday or other closure day, or a Saturday, or a Sunday, in which case the aforementioned documents must be received before 12:00 noon on the first available business day following the holiday, other closure day, Saturday, or Sunday.

As a guarantee thereof, the Bidder submits, together with this bid, a bid bond or other acceptable instrument as and if required by the Bid Documents.

00 41 13
Contractor Bid Form

1. The Bidder, having carefully examined the *Rockland District Court* Project Manual dated 08/01/2026, prepared by *Armstrong Engineering* (Consultant), as well as Specifications, Drawings, and any Addenda, the form of contract, and the premises and conditions relating to the work, proposes to furnish all labor, equipment and materials necessary for and reasonably incidental to the construction and completion of this project for the **Base Bid** amount of:

\$ _____ .00

Note: Base Bid includes Allowances and Unit Price Quantities as applicable (see below).

2. Allowances *are not included* on this project.
No Allowances

<u>No.</u>	<u>Description</u>	
1	not used	<u>\$0.00</u>
2	not used	<u>\$0.00</u>
3	not used	<u>\$0.00</u>
4	not used	<u>\$0.00</u>
5	not used	<u>\$0.00</u>

3. Alternate Bids *are included* on this project.
Alternate Bids are as shown below
 Any dollar amount line below that is left blank by the Bidder shall be read as a bid of **\$0.00**.

<u>No.</u>	<u>Description</u>	
1	<i>Alt. Add #1 - Boiler Plant Manager for Remote Access/Co</i>	<u>\$0.00</u>
2	not used	<u>\$0.00</u>
3	not used	<u>\$0.00</u>
4	not used	<u>\$0.00</u>
5	not used	<u>\$0.00</u>

00 41 13
Contractor Bid Form

4. Unit Prices *are not included* on this project.

No Unit Prices

Any dollar amount line below that is left blank by the Bidder shall be read as a bid of **\$0.00**. *Note: ADD and DEDUCT unit prices cannot differ by more than 20%.*

<u>No.</u>	<u>Description</u>	<u>Unit</u>	<u>Quantity*</u>	<u>Unit Price</u> <u>ADD</u>	<u>Unit Price</u> <u>DEDUCT</u>
1	not used		_____	<u>\$0.00</u>	<u>\$0.00</u>
2	not used		_____	<u>\$0.00</u>	<u>\$0.00</u>
3	not used		_____	<u>\$0.00</u>	<u>\$0.00</u>
4	not used		_____	<u>\$0.00</u>	<u>\$0.00</u>
5	not used		_____	<u>\$0.00</u>	<u>\$0.00</u>

* Unit price quantities are included in the **Base Bid** amount above. If installed quantities differ, then cost will be adjusted by Change Order according to the ADD and DEDUCT unit prices as provided above. Quantities shall be verified by the Consultant.

5. Bid security *is required* on this project.

If noted above as required, or if the Base Bid amount exceeds \$125,000.00, the Bidder shall include with this bid form a satisfactory Bid Bond (section 00 43 13) or a certified or cashier's check for 5% of the bid amount with this completed bid form submitted to the Owner.

6. Filed Sub-bids *are not required* on this project.

If noted above as required, the Bidder shall include with this bid form a list of each Filed Sub-bidder selected by the Bidder on the form provided (section 00 41 13F).

State of Maine CONSTRUCTION CONTRACT

Large Construction Project

*This form is used when the Contract value is \$50,000 or greater.
The Project Manual, Specifications and Drawings, and any Addenda are considered part of this Contract.*

Agreement entered into by and between the contracting entity name hereinafter called the **Owner** and Contractor company name hereinafter called the **Contractor**.

BGS Project No.: number assigned by BGS

Other Project No.: _____

For the following Project: title of project as shown on bid documents at facility or campus name, municipality, Maine.

The Specifications and the Drawings have been prepared by Consultant firm name, acting as Professional-of-Record and named in the documents as the Consultant Architect or Engineer.

The *Owner* and *Contractor* agree as follows:

ARTICLE 1 COMPENSATION AND PAYMENTS

1.1 The Owner shall pay the Contractor to furnish all labor, equipment, materials and incidentals necessary for the construction of the Work described in the Specifications and shown on the Drawings the Contract Amount as shown below.

Base Bid	<u>\$0.00</u>
<u>Alternate Bid number and name or "no Alternates"</u>	<u>\$0.00</u>
<u>Alternate Bid number and name or "no Alternates"</u>	<u>\$0.00</u>
<u>Alternate Bid number and name or "no Alternates"</u>	<u>\$0.00</u>
<u>Alternate Bid number and name or "no Alternates"</u>	<u>\$0.00</u>
<u>Alternate Bid number and name or "no Alternates"</u>	<u>\$0.00</u>
Total Contract Amount	<u>\$0.00</u>

1.2 The Contractor's requisition shall contain sufficient detail and supporting information for the Owner to evaluate and support the payment requested.

1.2.1 Payments are due and payable twenty-five working days from the date of receipt of a Contractor requisition which is approved by the Owner.

1.2.2 Provisions for late payments are governed by 5 M.R.S. Chapter 144, *Payment of Invoices Received from Business Concerns*, and interest shall be calculated at 1% per month.

ARTICLE 2 COMMENCEMENT AND COMPLETION DATES

2.1 The Work of this Contract shall commence no sooner than the date this document is executed by the approval authority, or a subsequent date designated in the contract documents.

2.2 The Substantial Completion Date shall be _____.

2.3 The Work of this Contract shall be completed on or before the Contract Final Completion Date of _____.

2.4 The Contract Expiration Date shall be _____. (This date is the Owner's deadline for internal management of contract accounts. The Contract Expiration Date does not directly relate to any contract obligation of the Contractor.)

ARTICLE 3 INELIGIBLE BIDDER

3.1 By signing this contract the Contractor attests that it has not been declared ineligible to bid on State of Maine projects. The Bureau of General Services may disallow award of this contract to any Contractor if there is evidence that the Contractor or any of its Subcontractors, through their own fault, have been terminated, suspended for cause, debarred from bidding, agreed to refrain from bidding as part of a settlement, have defaulted on a contract, or had a contract completed by another party.

3.2 By signing this contract the Contractor attests that it is not presently indicted for or otherwise criminally or civilly charged by a Federal, State or local government entity with commission of any of the following offenses and has not within a three-year period preceding this bid been convicted of or had a civil judgment rendered against them for commission of fraud or a criminal offense in connection with obtaining, attempting to obtain, or performing a public (Federal, State or local) transaction, or contract under a public transaction, violation of Federal or State anti-trust statutes or commission of embezzlement, theft, forgery, bribery, falsification or destruction of records, making false statements, or receiving stolen property.

3.3 The Contractor shall not make any award or permit any award (subgrant or contract) at any tier to any party which is debarred or suspended or is otherwise excluded from or ineligible for participation in Federal assistance programs or State of Maine projects.

ARTICLE 4 CONTRACTOR'S RESPONSIBILITIES

4.1 On this project, the Contractor shall furnish the Owner the appropriate contract bonds in the amount of 100% of the Contract Sum. Contract bonds are mandated if the Contract Sum exceeds \$125,000, or if bonds are specifically required by the Contract Documents.

4.2 The Contractor shall comply with all laws, codes and regulations applicable to the Work.

4.3 The Contractor shall acquire all permits and third-party approvals applicable to the Work not specifically identified as provided by the Owner. Costs for Contractor-provided permits and third-party approvals shall be included in the Contract Sum identified in Section 1.1 above.

4.4 The Contractor shall remain an independent agent for the duration of this Contract, shall not become an employee of the State of Maine, and shall assure that no State employee will be compensated by, or otherwise benefit from, this Contract.

4.5 The Contractor shall be responsible for any design cost, construction cost, or other cost incurred on the Project to the extent caused by the negligent acts, errors or omissions of the Contractor or their Subcontractors in the performance of Work under this Contract.

ARTICLE 5 OWNER'S RESPONSIBILITIES

5.1 The Owner shall provide full information about the objectives, schedule, constraints and existing conditions of the project. The Owner has established a budget with reasonable contingencies that meets the project requirements.

5.2 By signing this contract, the Owner attests that all State of Maine procurement requirements for this contract have been met, including the solicitation of competitive bids.

ARTICLE 6 INSTRUMENTS OF SERVICE

6.1 The Contractor's use of the drawings, specifications and other documents known as the Consultant's Instruments of Service is limited to the execution of the Contractor's scope of work of this project unless the Contractor receives the written consent of the Owner and Consultant for use elsewhere.

ARTICLE 7 MISCELLANEOUS PROVISIONS

7.1 This Contract shall be governed by the laws of the State of Maine.

7.2 The Owner and Contractor, respectively, bind themselves, their partners, successors, assigns and legal representatives to this Contract. Neither party to this Contract shall assign the Contract as a whole without written consent of the other party, which consent the Owner may withhold without cause.

7.3 Notwithstanding any other provision of this Agreement, if the Owner does not receive sufficient funds to fund this Agreement or funds are de-appropriated, or if the Owner does not receive legal authority from the Maine State Legislature or Maine Courts to expend funds intended for this Agreement, then the Owner is not obligated to make payment under this Agreement; provided, however, the Owner shall be obligated to pay for services satisfactorily performed prior to any such non-appropriation in accordance with the termination provisions of this Agreement. The Owner shall timely notify the Contractor of any non-appropriation and the effective date of the non-appropriation.

ARTICLE 8 CONTRACT DOCUMENTS

8.1 The Project Manual, Specifications and Drawings, and any Addenda, together with this agreement, form the contract. Each element is as fully a part of the Contract as if hereto attached or herein repeated.

8.2 Specifications: *indicate date of issuance of project manual*

8.3 Drawings: *note here or attach each sheet number and title*

8.4 Addenda: *note each addenda number and date, or "none"*

BGS Project No.: _____

The Contract is effective as of the date executed by the approval authority.

OWNER**CONTRACTOR**

Signature Date
name and title

name of contracting entity
address

telephone
email address

Signature Date
name and title

name of contractor company
address

telephone
email address
Vendor Number

Indicate the names of the review and approval individuals appropriate to the approval authority.

select proper approval authority			
Reviewed by:		Approved by:	
_____ <i>Signature Date</i> <i>insert name</i>		_____ <i>Signature Date</i> <i>John Kenney, P.E.</i>	
<i>Project Manager/ Contract Administrator</i>		<i>Director, Planning Design and Construction Division (PDCD)</i>	

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Definitions

1. Definitions

- 1.1 *Addendum*: A document issued by the Consultant that amends the Bid Documents. Addenda shall not be issued less than seventy-two hours prior to the specified bid opening time.
- 1.2 *Allowance*: A specified dollar amount for a particular scope of work or service included in the Work that is identified in the Bid Documents and included in each Bidder's Bid. The Contractor shall document expenditures for an Allowance during the Project. Any unused balance shall be credited to the Owner. The Contractor is responsible for notifying the Owner of anticipated expenses greater than the specified amount and the Owner is responsible for those additional expenses.
- 1.3 *Alternate Bid*: The Contractor's written offer of a specified dollar amount, submitted on the Bid Form, for the performance of a particular scope of work described in the Bid Documents. The Owner determines the low bidder based on the sum of the base Bid and any combination of Alternate Bids that the Owner selects.
- 1.4 *Architect*: A Consultant acting as, or supporting, the Professional-of-Record who is responsible for the design of the Project. Equivalent to "Consultant" in State of Maine contract forms.
- 1.5 *Architectural Supplemental Instruction (ASI)*: A written instruction from the Architect for the purpose of clarification of the Contract Documents. An ASI does not alter the Contract Price or Contract Time. ASIs may be responses to RFIs and shall be issued by the Architect in a timely manner to avoid any negative impact on the Schedule of Work.
- 1.6 *Bid*: The Contractor's written offer of a specified dollar amount or amounts, submitted on a form included in the Bid Documents, for the performance of the Work. A Bid may include bonds or other requirements. A base Bid is separate and distinct from Alternate Bids, being the only cost component necessary for the award of the contract, and representing the minimum amount of Work that is essential for the functioning of the Project.
- 1.7 *Bid Bond*: The security designated in the Bid Documents, furnished by Bidders as a guaranty of good faith to enter into a contract with the Owner, should a contract be awarded to that Bidder.
- 1.8 *Bidder*: Any business entity, individual or corporation that submits a bid for the performance of the work described in the Bid Documents, acting directly or through a duly authorized representative.
- 1.9 *Bid Documents*: The drawings, procurement and contracting requirements, general requirements, and the written specifications -including all addenda, that a bidder is required to reference in the submission of a bid.
- 1.10 *Bureau*: The State of Maine Bureau of Real Estate Management (formerly known as Bureau of General Services, or BGS) in the Department of Administrative and Financial Services.
- 1.11 *Calendar days*: Consecutive days, as occurring on a calendar, taking into account each day of the week, month, year, and any religious, national or local holidays. Calendar days are used for changes in Contract Time.
- 1.12 *Certificate of Substantial Completion*: A document developed by the Consultant that describes the final status of the Work and establishes the date that the Owner may use the facility for its intended

00 71 00
Definitions

purpose. The Certificate of Substantial Completion may also include a provisional list of items - a "punch list" - remaining to be completed by the Contractor. The Certificate of Substantial Completion identifies the date from which the project warranty period commences.

- 1.13 *Certificate of Occupancy*: A document developed by a local jurisdiction such as the Code Enforcement Officer that grants permission to the Owner to occupy a building.
- 1.14 *Change Order (CO)*: A document that modifies the contract and establishes the basis of a specific adjustment to the Contract Price or the Contract Time, or both. Change Orders may address correction of omissions, errors, and document discrepancies, or additional requirements. Change Orders should include all labor, materials and incidentals required to complete the work described. A Change Order is not valid until signed by the Contractor, Owner and Consultant and approved by the Bureau.
- 1.15 *Change Order Proposal (COP) (see also Proposal)*: Contract change proposed by the Contractor regarding the contract amount, requirements, or time. The Contractor implements the work of a COP after it is accepted by all parties. Accepted COPs are incorporated into the contract by Change Order.
- 1.16 *Clerk of the Works*: The authorized representative of the Consultant on the job site. Clerk of the Works is sometimes called the Architect's representative.
- 1.17 *Construction Change Directive (CCD)*: A written order prepared by the Consultant and signed by the Owner and Consultant, directing a change in the Work prior to final agreement with the Contractor on adjustment, if any, in the Contract Price or Contract Time, or both.
- 1.18 *Contract*: A written agreement between the Owner and the successful bidder which obligates the Contractor to perform the work specified in the Contract Documents and obligates the Owner to compensate the Contractor at the mutually accepted sum, rates or prices.
- 1.19 *Contract Bonds (also known as Payment and Performance Bonds)*: The approved forms of security, furnished by the Contractor and their surety, which guarantee the faithful performance of all the terms of the contract and the payment of all bills for labor, materials and equipment by the Contractor.
- 1.20 *Contract Documents*: The drawings and written specifications (including all addenda), Standard General Conditions, and the contract (including all Change Orders subsequently incorporated in the documents).
- 1.21 *Contract Price*: The dollar amount of the construction contract, also called *Contract Sum*.
- 1.22 *Contract Time*: The designated duration of time to execute the Work of the contract, with a specific date for completion.
- 1.23 *Contractor*: Also called the "General Contractor" or "GC" the individual or entity undertaking the execution of the general contract work under the terms of the contract with the Owner, acting directly or through a duly authorized representative. The Contractor is responsible for the means, methods and materials utilized in the execution and completion of the Work.
- 1.24 *Consultant*: The Architect or Engineer acting as Professional-of-Record for the Project. The Consultant is responsible for the design of the Project.

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- 1.25 *Drawings*: The graphic and pictorial portion of the Contract Documents showing the design, location and dimensions of the Work, generally including plans, elevations, sections, details, schedules, and diagrams.
- 1.26 *Engineer*: A Consultant acting as, or supporting, the Professional-of-Record who is responsible for the design of the Project. Equivalent to “Consultant” in State of Maine contract forms.
- 1.27 *Filed Sub-bid*: The designated major Subcontractor's (or, in some cases, Contractor's) written offer of a specified dollar amount or amounts, submitted on a form included in the Bid Documents, for the performance of a particular portion of the Work. A Filed Sub-bid may include bonds or other requirements.
- 1.28 *Final Completion*: Project status establishing the date when the Work is fully completed in compliance with the Contract Documents, as certified by the Consultant. Final payment to the Contractor is due upon Final Completion of the Project.
- 1.29 *General Requirements*: The on-site overhead expense items the Contractor provides for the Project, typically including, but not limited to, building permits, construction supervision, Contract Bonds, insurance, field office, temporary utilities, rubbish removal, and site fencing. Overhead expenses of the Contractor's general operation are not included. Sometimes referred to as the Contractor's General Conditions.
- 1.30 *Owner*: The State agency which is represented by duly authorized individuals. The Owner is responsible for defining the scope of the Project and compensation to the Consultant and Contractor.
- 1.31 *Owner's Representative*: The individual or entity contracted by the Owner to be an advisor and information conduit regarding the Project.
- 1.32 *Overhead*: General and administrative expenses of the Contractor's principal and branch offices, including payroll costs and other compensation of Contractor employees, deductibles paid on any insurance policy, charges against the Contractor for delinquent payments, and costs related to the correction of defective work, and the Contractor's capital expenses, including interest on capital used for the work.
- 1.33 *Performance and Payment Bonds (also known as Contract Bonds)*: The approved forms of security, furnished by the Contractor and their surety, which guarantee the faithful performance of all the terms of the contract and the payment of all bills for labor, materials and equipment by the Contractor.
- 1.34 *Post-Bid Addendum*: Document issued by the Consultant that defines a potential Change Order prior to signing of the construction contract. The Post-Bid Addendum allows the Owner to negotiate contract changes with the Bidder submitting the lowest valid bid, only if the negotiated changes to the Bid Documents result in no change or no increase in the bid price.

A Post-Bid Addendum may also be issued after a competitive construction Bid opening to those Bidders who submitted a Bid initially, for the purpose of rebidding the Project work without re-advertising.

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- 1.35 *Project*: The construction project proposed by the Owner to be constructed according to the Contract Documents. The Project, a public improvement, may be tied logistically to other public improvements and other activities conducted by the Owner or other contractors.
- 1.36 *Proposal (see also Change Order Proposal)*: The Contractor's written offer submitted to the Owner for consideration containing a specified dollar amount or rate, for a specific scope of work, and including a schedule impact, if any. A proposal shall include all costs for overhead and profit. The Contractor implements the work of a Proposal after it is accepted by all parties. Accepted Proposals are incorporated into the contract by Change Order.
- 1.37 *Proposal Request (PR)*: An Owner's written request to the Contractor for a Change Order Proposal.
- 1.38 *Punch List*: A document that identifies the items of work remaining to be done by the Contractor at the Close Out of a Project. The Punch List is created as a result of a final inspection of the work only after the Contractor attests that all of the Work is in its complete and permanent status.
- 1.39 *Request For Information (RFI)*: A Contractor's written request to the Consultant for clarification, definition or description of the Work. RFIs shall be presented by the Contractor in a timely manner to avoid any negative impact on the Schedule of Work.
- 1.40 *Request For Proposal (RFP)*: An Owner's written request to the Contractor for a Change Order Proposal.
- 1.41 *Requisition for Payment*: The document in which the Contractor certifies that the Work described is, to the best of the Contractor's knowledge, information and belief, complete and that all previous payments have been paid by the Contractor to Subcontractors and suppliers, and that the current requested payment is now due. See *Schedule of Values*.
- 1.42 *Retainage*: The amount, calculated at five percent (5%) of the contract value or a scheduled value, that the Owner shall withhold from the Contractor until the work or portion of work is declared substantially complete or otherwise accepted by the Owner. The Owner may, if requested, reduce the amount withheld if the Owner deems it desirable and prudent to do so. (See Title 5 M.R.S.A., Section 1746.)
- 1.43 *Sample*: A physical example provided by the Contractor which illustrates materials, equipment or workmanship and establishes standards by which the Work will be judged.
- 1.44 *Schedule of the Work*: The document prepared by the Contractor and approved by the Owner that specifies the dates on which the Contractor plans to begin and complete various parts of the Work, including dates on which information and approvals are required from the Owner.
- 1.45 *Schedule of Values*: The document prepared by the Contractor and approved by the Owner before the commencement of the Work that specifies the dollar values of discrete portions of the Work equal in sum to the contract amount. The Schedule of Values is used to document progress payments of the Work in regular (usually monthly) requisitions for payment. See *Requisition for Payment*.
- 1.46 *Shop Drawings*: The drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or a Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

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- 1.47 *Specifications*: The portion of the Contract Documents consisting of the written requirements of the Work for materials, equipment, systems, standards, workmanship, and performance of related services.
- 1.48 *Subcontractor*: An individual or entity undertaking the execution of any part of the Work by virtue of a written agreement with the Contractor or any other Subcontractor. Also, an individual or entity retained by the Contractor or any other Subcontractor as an independent contractor to provide the labor, materials, equipment or services necessary to complete a specific portion of the Work.
- 1.49 *Substantial Completion*: Project status indicating when the Work or a designated portion of the Work is sufficiently complete in compliance with the Contract Documents so that the Owner can occupy or utilize the Work for its intended purpose without unscheduled disruption. Substantial Completion is documented by the date of the Certificate of Substantial Completion signed by the Owner and the Contractor.
- 1.50 *Superintendent*: The representative of the Contractor on the job site, authorized by the Contractor to receive and fulfill instructions from the Consultant.
- 1.51 *Surety*: The individual or entity that is legally bound with the Contractor and Subcontractor to insure the faithful performance of the contract and for the payment of the bills for labor, materials and equipment by the Contractor and Subcontractors.
- 1.52 *Work*: The construction and services, whether completed or partially completed, including all labor, materials, equipment and services provided or to be provided by the Contractor and Subcontractors to fulfill the requirements of the Project as described in the Contract Documents.

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1. Preconstruction Conference

- 1.1 The Contractor shall, upon acceptance of a contract and prior to commencing work, schedule a preconstruction conference with the Owner and Consultant. The purpose of this conference is as follows.
 - 1.1.1 Introduce all parties who have a significant role in the Project, including:
 - Owner (State agency or other contracting entity)
 - Owner's Representative
 - Consultant (Architect or Engineer)
 - Subconsultants
 - Clerk-of-the-works
 - Contractor (GC)
 - Superintendent
 - Subcontractors
 - Other State agencies
 - Construction testing company
 - Commissioning agent
 - Special Inspections agent
 - Bureau of General Services (BGS);
 - 1.1.2 Review the responsibilities of each party;
 - 1.1.3 Review any previously-identified special provisions of the Project;
 - 1.1.4 Review the Schedule of the Work calendar submitted by the Contractor to be approved by the Owner and Consultant;
 - 1.1.5 Review the Schedule of Values form submitted by the Contractor to be approved by the Owner and Consultant;
 - 1.1.6 Establish routines for Shop Drawing approval, contract changes, requisitions, et cetera;
 - 1.1.7 discuss jobsite issues;
 - 1.1.8 Discuss Project close-out procedures;
 - 1.1.9 Provide an opportunity for clarification of Contract Documents before work begins; and
 - 1.1.10 Schedule regular meetings at appropriate intervals for the review of the progress of the Work.

2. Intent and Correlation of Contract Documents

- 2.1 The intent of the Contract Documents is to describe the complete Project. The Contract Documents consist of various components; each component complements the others. What is shown as a requirement by any one component shall be inferred as a requirement on all corresponding components.
- 2.2 The Contractor shall furnish all labor, equipment and materials, tools, transportation, insurance, services, supplies, operations and methods necessary for, and reasonably incidental to, the construction and completion of the Project. Any work that deviates from the Contract Documents which appears to be required by the exigencies of construction or by inconsistencies in the Contract Documents, will be determined by the Consultant and authorized in writing by the Consultant, Owner and the Bureau prior to execution. The Contractor shall be responsible for requesting clarifying information where the intent of the Contract Documents is uncertain.
- 2.3 The Contractor shall not utilize any apparent error or omission in the Contract Documents to the disadvantage of the Owner. The Contractor shall promptly notify the Consultant in writing of

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such errors or omissions. The Consultant shall make any corrections or clarifications necessary in such a situation to document the true intent of the Contract Documents.

3. Additional Drawings and Specifications

- 3.1 Upon the written request of the Contractor, the Owner shall provide, at no expense to the Contractor, up to five sets of printed Drawings and Specifications for the execution of the Work.
- 3.2 The Consultant shall promptly furnish to the Contractor revised Drawings and Specifications, for the area of the documents where those revisions apply, when corrections or clarifications are made by the Consultant. All such information shall be consistent with, and reasonably inferred from, the Contract Documents. The Contractor shall do no work without the proper Drawings and Specifications.

4. Ownership of Contract Documents

- 4.1 The designs represented on the Contract Documents are the property of the Consultant. The Drawings and Specifications shall not be used on other work without consent of the Consultant.

5. Permits, Laws, and Regulations

- 5.1 The Owner is responsible for obtaining any zoning approvals or other similar local project approvals necessary to complete the Work, unless otherwise specified in the Contract Documents.
- 5.2 The Owner is responsible for obtaining Maine Department of Environmental Protection, Maine Department of Transportation, or other similar state government project approvals necessary to complete the Work, unless otherwise indicated in the Contract Documents.
- 5.3 The Owner is responsible for obtaining any federal agency project approvals necessary to complete the Work, unless otherwise indicated in the Contract Documents.
- 5.4 The Owner is responsible for obtaining all easements for permanent structures or permanent changes in existing facilities.
- 5.5 The Contractor is responsible for obtaining and paying for all permits and licenses necessary for the implementation of the Work. The Contractor shall notify the Owner of any delays, variance or restrictions that may result from the issuing of permits and licenses.
- 5.6 The Contractor shall comply with all ordinances, laws, rules and regulations and make all required notices bearing on the implementation of the Work. In the event the Contractor observes disagreement between the Drawings and Specifications and any ordinances, laws, rules and regulations, the Contractor shall promptly notify the Consultant in writing. Any necessary changes shall be made as provided in the contract for changes in the work. The Contractor shall not perform any work knowing it to be contrary to such ordinances, laws, rules and regulations.
- 5.7 The Contractor shall comply with local, state and federal regulations regarding construction safety and all other aspects of the Work.

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- 5.8 The Contractor shall comply with the Maine Code of Fair Practices and Affirmative Action, 5 M.R.S. §784 (2).

6. Taxes

- 6.1 The Owner is exempt from the payment of Maine State sales and use taxes as provided in 36 M.R.S. §1760 (1). The Contractor and Subcontractors shall not include taxes on exempt items in the construction contract.
- 6.2 Section 1760 further provides in subsection 61 that sales to a construction contractor or its subcontractor of tangible personal property that is to be physically incorporated in, and become a permanent part of, real property for sale to or owned by the Owner, are exempt from Maine State sales and use taxes. Tangible personal property is defined in 36 M.R.S. §1752 (17).
- 6.3 The Contractor may contact Maine Revenue Services, 24 State House Station, Augusta, Maine 04333 for guidance on tax exempt regulations authorized by 36 M.R.S. §1760 and detailed in Rule 302 (18-125 CMR 302).

7. Labor and Wages

- 7.1 The Contractor shall conform to the labor laws of the State of Maine, and all other laws, ordinances, and legal requirements affecting the work in Maine.
- 7.2 The Consultant shall include a wage determination document prepared by the Maine Department of Labor in the Contract Documents for state-funded contracts in excess of \$50,000. The document shows the minimum wages required to be paid to each category of labor employed on the project.
- 7.3 On projects requiring a Maine wage determination, the Contractor shall submit monthly payroll records to the Owner ("the contracting agency") showing the name and occupation of all workers and all independent contractors employed on the project. The monthly submission must also include the Contractor's company name, the title of the project, hours worked, hourly rate or other method of remuneration, and the actual wages or other compensation paid to each person.
- 7.4 The Contractor shall not reveal, in the payroll records submitted to the Owner, personal information regarding workers and independent contractors, other than the information described above. Such information shall not include Social Security number, employee identification number, or employee address or phone number, for example.
- 7.5 The Contractor shall conform to Maine statute (39-A M.R.S. §105-A (6)) by providing to the Workers' Compensation Board a list of all subcontractors and independent contractors on the job site and a record of the entity to whom that subcontractor or independent contractor is directly contracted and by whom that subcontractor or independent contractor is insured for workers' compensation purposes.
- 7.6 The Contractor shall enforce strict discipline and good order among their employees at all times, and shall not employ any person unfit or unskilled to do the work assigned to them.

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- 7.7 The Contractor shall promptly pay all employees when their compensation is due, shall promptly pay all others who have billed and are due for materials, supplies and services used in the Work, and shall promptly pay all others who have billed and are due for insurance, workers compensation coverage, federal and state unemployment compensation, and Social Security charges pertaining to this Project. Before final payments are made, the Contractor shall furnish to the Owner affidavits that all such payments described above have been made.
- 7.8 The Contractor may contact the Maine Department of Labor, 54 State House Station, Augusta, Maine 04333 for guidance on labor issues.
- 7.9 The Contractor may contact the Maine Workers' Compensation Board, 27 State House Station, Augusta, Maine 04333 for guidance on workers' compensation issues.

8. Indemnification

- 8.1 The Contractor shall indemnify and hold harmless the Owner and its officers and employees from and against any and all damages, liabilities, and costs, including reasonable attorney's fees, and defense costs, for any and all injuries to persons or property, including claims for violation of intellectual property rights, to the extent caused by the negligent acts or omissions of the Contractor, its employees, agents, officers or subcontractors in the performance of work under this Agreement. The Contractor shall not be liable for claims to the extent caused by the negligent acts or omissions of the Owner or for actions taken in reasonable reliance on written instructions of the Owner.
- 8.2 The Contractor shall notify the Owner promptly of all claims arising out of the performance of work under this Agreement by the Contractor, its employees or agents, officers or subcontractors.
- 8.3 This indemnity provision shall survive the termination of the Agreement, completion of the project or the expiration of the term of the Agreement.

9. Insurance Requirements

- 9.1 The Contractor shall provide, with each original of the signed Contract, an insurance certificate or certificates acceptable to the Owner and BGS. The Contractor shall submit insurance certificates to the Owner and BGS at the commencement of this Contract and at policy renewal or revision dates. The certificates shall identify the project name and BGS project number, and shall name the Owner as certificate holder and as additional insured for general liability and automobile liability coverages. The submitted forms shall contain a provision that coverage afforded under the insurance policies will not be canceled or materially changed unless at least ten days prior written notice by registered letter has been given to the Owner and BGS.
- 9.2 The Owner does not warrant or represent that the insurance required herein constitutes an insurance portfolio which adequately addresses all risks faced by the Contractor or its Subcontractors. The Contractor is responsible for the existence, extent and adequacy of insurance prior to commencement of work. The Contractor shall not allow any Subcontractor to commence work until all similar insurance required of the Subcontractor has been confirmed by the Contractor.

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- 9.3 The Contractor shall procure and maintain primary insurance for the duration of the Project and, if written on a Claims-Made basis, shall also procure and maintain Extended Reporting Period (ERP) insurance for the period of time that any claims could be brought. The Contractor shall ensure that all Subcontractors they engage or employ will procure and maintain similar insurance in form and amount acceptable to the Owner and BGS. At a minimum, the insurance shall be of the types and limits set forth herein protecting the Contractor from claims which may result from the Contractor's execution of the Work, whether such execution be by the Contractor or by those employed by the Contractor or by those for whose acts they may be liable. All required insurance coverages shall be placed with carriers authorized to conduct business in the State of Maine by the Maine Bureau of Insurance.
- 9.3.1 The Contractor shall have Workers' Compensation insurance for all employees on the Project site in accordance with the requirements of the Workers' Compensation law of the State of Maine. Minimum acceptable limits for Employer's Liability are:
- | | |
|--------------------------------|-------------------------|
| Bodily Injury by Accident..... | \$500,000 |
| Bodily Injury by Disease..... | \$500,000 Each Employee |
| Bodily Injury by Disease..... | \$500,000 Policy Limit |
- 9.3.2 The Contractor shall have Commercial General Liability insurance providing coverage for bodily injury and property damage liability for all hazards of the Project including premise and operations, products and completed operations, contractual, and personal injury liabilities. The policy shall include collapse and underground coverage as well as explosion coverage if explosion hazards exist. Aggregate limits shall apply on a location or project basis. Minimum acceptable limits are:
- | | |
|---|-------------|
| General aggregate limit..... | \$2,000,000 |
| Products and completed operations aggregate | \$1,000,000 |
| Each occurrence limit..... | \$1,000,000 |
| Personal injury aggregate | \$1,000,000 |
- 9.3.3 The Contractor shall have Automobile Liability insurance against claims for bodily injury, death or property damage resulting from the maintenance, ownership or use of all owned, non-owned and hired automobiles, trucks and trailers. Minimum acceptable limit is:
- | | |
|--------------------------------|-----------|
| Any one accident or loss | \$500,000 |
|--------------------------------|-----------|
- 9.3.4 For the portion of a project which is new construction, the Contractor shall procure and maintain Builder's Risk insurance naming the Owner, Contractor, and any Subcontractor as insureds as their interest may appear. Covered causes of loss form shall be all Risks of Direct Physical Loss, endorsed to include flood, earthquake, transit and sprinkler leakage where sprinkler coverage is applicable. Unless specifically authorized in writing by the Owner, the limit of insurance shall not be less than the initial contract amount, for the portion of the project which is new construction, and coverage shall apply during the entire contract period and until the work is accepted by the Owner.
- 9.3.5 The Contractor shall have Owner's Protective Liability insurance for contract values \$50,000 and above, naming the Owner as the Named Insured. Minimum acceptable limits are:
- | | |
|------------------------------|-------------|
| General aggregate limit..... | \$2,000,000 |
| Each occurrence limit..... | \$1,000,000 |

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10. Contract Bonds

- 10.1 When noted as required in the Bid Documents, the Contractor shall provide to the Owner a Performance Bond and a Payment Bond, or "contract bonds", upon execution of the contract. Each bond value shall be for the full amount of the contract and issued by a surety company authorized to do business in the State of Maine as approved by the Owner. The bonds shall be executed on the forms furnished in the Bid Documents. The bonds shall allow for any subsequent additions or deductions of the contract.
- 10.2 The contract bonds shall continue in effect for one year after final acceptance of the contract to protect the Owner's interest in connection with the one year guarantee of workmanship and materials and to assure settlement of claims for the payment of all bills for labor, materials and equipment by the Contractor.

11. Patents and Royalties

- 11.1 The Contractor shall, for all time, secure for the Owner the free and undisputed right to the use of any patented articles or methods used in the Work. The expense of defending any suits for infringement or alleged infringement of such patents shall be borne by the Contractor. Awards made regarding patent suits shall be paid by the Contractor. The Contractor shall hold the Owner harmless regarding patent suits that may arise due to installations made by the Contractor, and to any awards made as a result of such suits.
- 11.2 Any royalty payments related to the work done by the Contractor for the Project shall be borne by the Contractor. The Contractor shall hold the Owner harmless regarding any royalty payments that may arise due to installations made by the Contractor.

12. Surveys, Layout of Work

- 12.1 The Owner shall furnish all property surveys unless otherwise specified.
- 12.2 The Contractor is responsible for correctly staking out the Work on the site. The Contractor shall employ a competent surveyor to position all construction on the site. The surveyor shall run the axis lines, establish correct datum points and check each line and point on the site to insure their accuracy. All such lines and points shall be carefully preserved throughout the construction.
- 12.3 The Contractor shall lay out all work from dimensions given on the Drawings. The Contractor shall take measurements and verify dimensions of any existing work that affects the Work or to which the Work is to be fitted. The Contractor is solely responsible for the accuracy of all measurements. The Contractor shall verify all grades, lines, levels, elevations and dimensions shown on the Drawings and report any errors or inconsistencies to the Consultant prior to commencing work.

13. Record of Documents

- 13.1 The Contractor shall maintain one complete set of Contract Documents on the jobsite, in good order and current status, for access by the Owner and Consultant.
- 13.2 The Contractor shall maintain, continuously updated, complete records of Requests for Information, Architectural Supplemental Instructions (or equivalent), Information Bulletins,

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supplemental sketches, Change Order Proposals, Change Orders, Shop Drawings, testing reports, et cetera, for access by the Owner and Consultant.

14. Allowances

- 14.1 The Contract Price shall include all allowances described in the Contract Documents. The Contractor shall include all overhead and profit necessary to implement each allowance in their Contract Price.
- 14.2 The Contractor shall not be required to employ parties for allowance work against whom the Contractor has a reasonable objection. In such a case, the Contractor shall notify the Owner in writing of their position and shall propose an alternative party to complete the work of the allowance.

15. Shop Drawings

- 15.1 The Contractor shall administer Shop Drawings prepared by the Contractor, Subcontractors, suppliers or others to conform to the approved Schedule of the Work. The Contractor shall verify all field measurements, check and authorize all Shop Drawings and schedules required by the Work. The Contractor is the responsible party and contact for the Contractor's work as well as that of Subcontractors, suppliers or others who provide Shop Drawings.
- 15.2 The Consultant shall review and acknowledge Shop Drawings, with reasonable promptness, for general conformity with the design concept of the project and compliance with the information provided in the Contract Documents.
- 15.3 The Contractor shall provide monthly updated logs containing: requests for information, information bulletins, supplemental instructions, supplemental sketches, change order proposals, change orders, submittals, testing and deficiencies.
- 15.4 The Contractor shall make any corrections required by the Consultant, and shall submit a quantity of corrected copies as may be needed. The acceptance of Shop Drawings or schedules by the Consultant shall not relieve the Contractor from responsibility for deviations from Drawings and Specifications, unless the Contractor has called such deviations to the attention of the Consultant at the time of submission and secured the Consultant's written approval. The acceptance of Shop Drawings or schedules by the Consultant does not relieve the Contractor from responsibility for errors in Shop Drawings or schedules.

16. Samples

- 16.1 The Contractor shall furnish for approval, with reasonable promptness, all samples as directed by the Consultant. The Consultant shall review and approve such samples, with reasonable promptness, for general conformity with the design concept of the project and compliance with the information provided in the Contract Documents. The subsequent work shall be in accord with the approved samples.

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17. Substitutions

- 17.1 The Contractor shall furnish items and materials described in the Contract Documents. If the item or material specified describes a proprietary product, or uses the name of a manufacturer, the term “or approved equal” shall be implied, if it is not included in the text. The specific item or material specified establishes a minimum standard for the general design, level of quality, type, function, durability, efficiency, reliability, compatibility, warranty coverage, installation factors and required maintenance. The Drawing or written Specification shall not be construed to exclude other manufacturers products of comparable design, quality, and efficiency.
- 17.2 The Contractor may submit detailed information about a proposed substitution to the Consultant for consideration. Particular models of items and particular materials which the Contractor asserts to be equal to the items and materials identified in the Contract Documents shall be allowed only with written approval by the Consultant. The request for substitution shall include a cost comparison and a reason or reasons for the substitution.
- 17.3 The Consultant may request additional information about the proposed substitution. The approval or rejection of a proposed substitution may be based on timeliness of the request, source of the information, the considerations of minimum standards described above, or other considerations. The Consultant should briefly state the rationale for the decision. The decision shall be considered final.
- 17.4 The duration of a substitution review process can not be the basis for a claim for delay in the Schedule of the Work.

18. Assignment of Contract

- 18.1 The Contractor shall not assign or sublet the contract as a whole without the written consent of the Owner. The Contractor shall not assign any money due to the Contractor without the written consent of the Owner.

19. Separate Contracts

- 19.1 The Owner reserves the right to create other contracts in connection with this Project using similar General Conditions. The Contractor shall allow the Owner's other contractors reasonable opportunity for the delivery and storage of materials and the execution of their work. The Contractor shall coordinate and properly connect the Work of all contractors.
- 19.2 The Contractor shall promptly report to the Consultant and Owner any apparent deficiencies in work of the Owner's other contractors that impacts the proper execution or results of the Contractor. The Contractor's failure to observe or report any deficiencies constitutes an acceptance of the Owner's other contractors work as suitable for the interface of the Contractor's work, except for latent deficiencies in the Owner's other contractors work.
- 19.3 Similarly, the Contractor shall promptly report to the Consultant and Owner any apparent deficiencies in their own work that would impact the proper execution or results of the Owner's other contractors.

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- 19.4 The Contractor shall report to the Consultant and Owner any conflicts or claims for damages with the Owner's other contractors and settle such conflicts or claims for damages by mutual agreement or arbitration, if necessary, at no expense to the Owner.
- 19.5 In the event the Owner's other contractors sue the Owner regarding any damage alleged to have been caused by the Contractor, the Owner shall notify the Contractor, who shall defend such proceedings at the Contractor's expense. The Contractor shall pay or satisfy any judgment that may arise against the Owner, and pay all other costs incurred.

20. Subcontracts

- 20.1 The Contractor shall not subcontract any part of this contract without the written permission of the Owner.
- 20.2 The Contractor shall submit a complete list of named Subcontractors and material suppliers to the Consultant and Owner for approval by the Owner prior to commencing work. The Subcontractors named shall be reputable companies of recognized standing with a record of satisfactory work.
- 20.3 The Contractor shall not employ any Subcontractor or use any material until they have been approved, or where there is reason to believe the resulting work will not comply with the Contract Documents.
- 20.4 The Contractor, not the Owner, is as fully responsible for the acts and omissions of Subcontractors and of persons employed by them, as the Contractor is for the acts and omissions of persons directly or indirectly employed by the Contractor.
- 20.5 Neither the Contract Documents nor any Contractor-Subcontractor contract shall indicate, infer or create any direct contractual relationship between any Subcontractor and the Owner.

21. Contractor-Subcontractor Relationship

- 21.1 The Contractor shall be bound to the Subcontractor by all the obligations in the Contract Documents that bind the Contractor to the Owner.
- 21.2 The Contractor shall pay the Subcontractor, in proportion to the dollar value of the work completed and requisitioned by the Subcontractor, the approved dollar amount allowed to the Contractor no more than seven days after receipt of payment from the Owner.
- 21.3 The Contractor shall pay the Subcontractor accordingly if the Contract Documents or the subcontract provide for earlier or larger payments than described in the provision above.
- 21.4 The Contractor shall pay the Subcontractor for completed and requisitioned subcontract work, less retainage, no more than seven days after receipt of payment from the Owner for the Contractor's approved Requisition for Payment, even if the Consultant fails to certify a portion of the Requisition for Payment for a cause not the fault of the Subcontractor.
- 21.5 The Contractor shall not make a claim for liquidated damages or penalty for delay in any amount in excess of amounts that are specified by the subcontract.

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- 21.6 The Contractor shall not make a claim for services rendered or materials furnished by the Subcontractor unless written notice is given by the Contractor to the Subcontractor within ten calendar days of the day in which the claim originated.
- 21.7 The Contractor shall give the Subcontractor an opportunity to present and to submit evidence in any progress conference or disputes involving subcontract work.
- 21.8 The Contractor shall pay the Subcontractor a just share of any fire insurance payment received by the Contractor.
- 21.9 The Subcontractor shall be bound to the Contractor by the terms of the Contract Documents and assumes toward the Contractor all the obligations and responsibilities that the Contractor, by those documents, assumes toward the Owner.
- 21.10 The Subcontractor shall submit applications for payment to the Contractor in such reasonable time as to enable the Contractor to apply for payment as specified.
- 21.11 The Subcontractor shall make any claims for extra cost, extensions of time or damages, to the Contractor in the manner provided in these General Conditions for like claims by the Contractor to the Owner, except that the time for the Subcontractor to make claims for extra cost is seven calendar days after the receipt of Consultant's instructions.

22. Supervision of the Work

- 22.1 During all stages of the Work the Contractor shall have a competent superintendent, with any necessary assistant superintendents, overseeing the project. The superintendent shall not be reassigned without the consent of the Owner unless a superintendent ceases to be employed by the Contractor due to unsatisfactory performance.
- 22.2 The superintendent represents the Contractor on the jobsite. Directives given by the Consultant or Owner to the superintendent shall be as binding as if given directly to the Contractor's main office. All important directives shall be confirmed in writing to the Contractor. The Consultant and Owner are not responsible for the acts or omissions of the superintendent or assistant superintendents.
- 22.3 The Contractor shall provide supervision of the Work equal to the industry's highest standard of care. The superintendent shall carefully study and compare all Contract Documents and promptly report any error, inconsistency or omission discovered to the Consultant. The Contractor may not necessarily be held liable for damages resulting directly from any error, inconsistency or omission in the Contract Documents or other instructions by the Consultant that was not revealed by the superintendent in a timely way.

23. Observation of the Work

- 23.1 The Contractor shall allow the Owner, the Consultant and the Bureau continuous access to the site for the purpose of observation of the progress of the work. All necessary safeguards and accommodations for such observations shall be provided by the Contractor.

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- 23.2 The Contractor shall coordinate all required testing, approval or demonstration of the Work. The Contractor shall give sufficient notice to the appropriate parties of readiness for testing, inspection or examination.
- 23.3 The Contractor shall schedule inspections and obtain all required certificates of inspection for inspections by a party other than the Consultant.
- 23.4 The Consultant shall make all scheduled observations promptly, prior to the work being concealed or buried by the Contractor. If approval of the Work is required of the Consultant, the Contractor shall notify the Consultant of the construction schedule in this regard. Work concealed or buried prior to the Consultant's approval may need to be uncovered at the Contractor's expense.
- 23.5 The Consultant may order reexamination of questioned work, and, if so ordered, the work must be uncovered by the Contractor. If the work is found to conform to the Contract Documents, the Owner shall pay the expense of the reexamination and remedial work. If the work is found to not conform to the Contract Documents, the Contractor shall pay the expense, unless the defect in the work was caused by the Owner's Contractor, whose responsibility the reexamination expense becomes.
- 23.6 The Bureau shall periodically observe the Work during the course of construction and make recommendations to the Contractor or Consultant as necessary. Such recommendations shall be considered and implemented through the usual means for changes to the Work.
24. Consultant's Status
- 24.1 The Consultant represents the Owner during the construction period, and observes the work in progress on behalf of the Owner. The Consultant has authority to act on behalf of the Owner only to the extent expressly provided by the Contract Documents or otherwise demonstrated to the Contractor. The Consultant has authority to stop the work whenever such an action is necessary, in the Consultant's reasonable opinion, to ensure the proper execution of the contract.
- 24.2 The Consultant is the interpreter of the conditions of the contract and the judge of its performance. The Consultant shall favor neither the Owner nor the Contractor, but shall use the Consultant's powers under the contract to enforce faithful performance by both parties.
- 24.3 In the event of the termination of the Consultant's employment on the project prior to completion of the work, the Owner shall appoint a capable and reputable replacement. The status of the new Consultant relative to this contract shall be that of the former Consultant.
25. Management of the Premises
- 25.1 The Contractor shall place equipment and materials, and conduct activities on the premises in a manner that does not unreasonably hinder site circulation, environmental stability, or any long term effect. Likewise, the Consultant's directions shall not cause the use of premises to be impeded for the Contractor or Owner.

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- 25.2 The Contractor shall not use the premises for any purpose other than that which is directly related to the scope of work. The Owner shall not use the premises for any purpose incompatible with the proposed work simultaneous to the work of the Contractor.
- 25.3 The Contractor shall enforce the Consultant's instructions regarding information posted on the premises such as signage and advertisements, as well as activities conducted on the premises such as fires, and smoking.
- 25.4 The Owner may occupy any part of the Project that is completed with the written consent of the Contractor, and without prejudice to any of the rights of the Owner or Contractor. Such use or occupancy shall not, in and of itself, be construed as a final acceptance of any work or materials.

26. Safety and Security of the Premises

- 26.1 The Contractor shall designate, and make known to the Consultant and the Owner, a safety officer whose duty is the prevention of accidents on the site.
- 26.2 The Contractor shall continuously maintain security on the premises and protect from unreasonable occasion of injury all people authorized to be on the job site. The Contractor shall also effectively protect the property and adjacent properties from damage or loss.
- 26.3 The Contractor shall take all necessary precautions to ensure the safety of workers and others on and adjacent to the site, abiding by applicable local, state and federal safety regulations. The Contractor shall erect and continuously maintain safeguards for the protection of workers and others, and shall post signs and other warnings regarding hazards associated with the construction process, such as protruding fasteners, moving equipment, trenches and holes, scaffolding, window, door or stair openings, and falling materials.
- 26.4 The Contractor shall restore the premises to conditions that existed prior to the start of the project at areas not intended to be altered according to the Contract Documents.
- 26.5 The Contractor shall protect existing utilities and exercise care working in the vicinity of utilities shown in the Drawings and Specifications or otherwise located by the Contractor.
- 26.6 The Contractor shall protect from damage existing trees and other significant plantings and landscape features of the site which will remain a permanent part of the site. If necessary or indicated in the Contract Documents, tree trunks shall be boxed and barriers erected to prevent damage to tree branches or roots.
- 26.7 The Contractor shall repair or replace damage to the Work caused by the Contractor's or Subcontractor's forces, including that which is reasonably protected, at the expense of the responsible party.
- 26.8 The Contractor shall not load, or allow to be loaded, any part of the Project with a force which imperils personal or structural safety. The Consultant may consult with the Contractor on such means and methods of construction, however, the ultimate responsibility lies with the Contractor.
- 26.9 The Contractor shall not jeopardize any work in place with subsequent construction activities such as blasting, drilling, excavating, cutting, patching or altering work. The Consultant must

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approve altering any structural components of the project. The Contractor shall supervise all construction activities carried out by others on site to ensure that the work is neatly done and in a manner that will not endanger the structure or the component parts.

- 26.10 The Contractor may act with their sole discretion in emergency situations that potentially effect health, life or serious damage to the premises or adjacent properties, to prevent such potential loss or injury. The Contractor may negotiate with the Owner for compensation for expenses due to such emergency work.
- 26.11 The Contractor and Subcontractors shall have no responsibility for the identification, discovery, presence, handling, removal or disposal of, or exposure of persons to, hazardous materials in any form at the project site. The Contractor shall avoid disruption of any hazardous materials or toxic substances at the project site and promptly notify the Owner in writing on the occasion of such a discovery.
- 26.12 The Contractor shall keep the premises free of any unsafe accumulation of waste materials caused by the work. The Contractor shall regularly keep the spaces "broom clean". See the Close-out of the Work provisions of this section regarding cleaning at the completion of the project.

27. Changes in the Work

- 27.1 The Contractor shall not proceed with extra work without an approved Change Order or Construction Change Directive. A Change Order which has been properly signed by all parties shall become a part of the contract.
- 27.2 A Change Order is the usual document for directing changes in the Work. In certain circumstances, however, the Owner may utilize a Construction Change Directive to direct the Contractor to perform changes in the Work that are generally consistent with the scope of the project. The Owner shall use a Construction Change Directive only when the normal process for approving changes to the Work has failed to the detriment of the Project, or when agreement on the terms of a Change Order cannot be met, or when an urgent situation requires, in the Owner's judgment, prompt action by the Contractor.
- 27.3 The Consultant shall prepare the Construction Change Directive representing a complete scope of work, with proposed Contract Price and Contract Time revisions, if any, clearly stated.
- 27.4 The Contractor shall promptly carry out a Construction Change Directive which has been signed by the Owner and the Consultant. Work thus completed by the Contractor constitutes the basis for a Change Order. Changes in the Contract Price and Contract Time shall be as defined in the Construction Change Directive unless subsequently negotiated with some other terms.
- 27.5 The method of determining the dollar value of extra work shall be by:
- .1 an estimate of the Contractor accepted by Owner as a lump sum, or
 - .2 unit prices named in the contract or subsequently agreed upon, or
 - .3 cost plus a designated percentage, or
 - .4 cost plus a fixed fee.

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- 27.6 The Contractor shall determine the dollar value of the extra work for both the lump sum and cost plus designated percentage methods so as not to exceed the following rates. The rates include all overhead and profit expenses.
- .1 Contractor - for any work performed by the Contractor's own forces, up to 20% of the cost;
 - .2 Subcontractor - for work performed by Subcontractor's own forces, up to 20% of the cost;
 - .3 Contractor - for work performed by Contractor's Subcontractor, up to 10% of the amount due the Subcontractor.
- 27.7 The Contractor shall keep and provide records as needed or directed for the cost plus designated percentage method. The Consultant shall review and certify the appropriate amount which includes the Contractor's overhead and profit. The Owner shall make payments based on the Consultant's certificate.
- 27.8 Cost reflected in Change Orders shall be limited to the following: cost of materials, cost of delivery, cost of labor (including Social Security, pension, Workers' Compensation insurance, and unemployment insurance), and cost of rental of power tools and equipment. Labor cost may include a pro-ratio share of a foreman's time only in the case of an extension of contract time granted due to the Change Order.
- 27.9 Overhead reflected in Change Orders shall be limited to the following: bond premium, supervision, wages of clerks, time keepers, and watchmen, small tools, incidental expenses, general office expenses, and all other overhead expenses directly related to the Change Order.
- 27.10 The Contractor shall provide credit to the Owner for labor, materials, equipment and other costs but not overhead and profit expenses for those Change Order items that result in a net value of credit to the contract.
- 27.11 The Owner may change the scope of work of the Project without invalidating the contract. The Owner shall notify the Contractor of a change of the scope of work for the Owner's Contractors, which may affect the work of this Contractor, without invalidating the contract. Change Orders for extension of the time caused by such changes shall be developed at the time of directing the change in scope of work.
- 27.12 The Consultant may order minor changes in the Work, not involving extra cost, which is consistent with the intent of the design or project.
- 27.13 The Contractor shall immediately give written notification to the Consultant of latent conditions discovered at the site which materially differ from those represented in the Drawings or Specifications, and which may eventually result in a change in the scope of work. The Contractor shall suspend work until receiving direction from the Consultant. The Consultant shall promptly investigate the conditions and respond to the Contractor's notice with direction that avoids any unnecessary delay of the Work. The Consultant shall determine if the discovered conditions warrant a Change Order.
- 27.14 The Contractor shall, within ten calendar days of receipt of the information, give written notification to the Consultant if the Contractor claims that instructions by the Consultant will constitute extra cost not accounted for by Change Order or otherwise under the contract. The Consultant shall promptly respond to the Contractor's notice with direction that avoids any

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unnecessary delay of the Work. The Consultant shall determine if the Contractor's claim warrants a Change Order.

28. Correction of the Work

- 28.1 The Contractor shall promptly remove from the premises all work the Consultant declares is non-conforming to the contract. The Contractor shall replace the work properly at no expense to the Owner. The Contractor is also responsible for the expenses of others whose work was damaged or destroyed by such remedial work.
- 28.2 The Owner may elect to remove non-conforming work if it is not removed by the Contractor within a reasonable time, that time defined in a written notice from the Consultant. The Owner may elect to store removed non-conforming work not removed by the Contractor at the Contractor's expense. The Owner may, with ten days written notice, dispose of materials which the Contractor does not remove. The Owner may sell the materials and apply the net proceeds, after deducting all expenses, to the costs that should have been borne by the Contractor.
- 28.3 The Contractor shall remedy any defects due to faulty materials or workmanship and pay for any related damage to other work which appears within a period of one year from the date of substantial completion, and in accord with the terms of any guarantees provided in the contract. The Owner shall promptly give notice of observed defects to the Contractor and Consultant. The Consultant shall determine the status of all claimed defects. The Contractor shall perform all remedial work without unjustifiable delay in either the initial response or the corrective action.
- 28.4 The Consultant may authorize, after a reasonable notification to the Contractor, an equitable deduction from the contract amount in lieu of the Contractor correcting non-conforming or defective work.

29. Owner's Right to do Work

- 29.1 The Owner may, using other contractors, correct deficiencies attributable to the Contractor, or complete unfinished work. Such action shall take place only after giving the Contractor three days written notice, and provided the Consultant approves of the proposed course of action as an appropriate remedy. The Owner may then deduct the cost of the remedial work from the amount due the Contractor.
- 29.2 The Owner may act with their sole discretion when the Contractor is unable to take action in emergency situations that potentially effect health, life or serious damage to the premises or adjacent properties, to prevent such potential loss or injury. The Owner shall inform the Contractor of the emergency work performed, particularly where it may affect the work of the Contractor.

30. Termination of Contract and Stop Work Action

- 30.1 The Owner may, owing to a certificate of the Consultant indicating that sufficient cause exists to justify such action, without prejudice to any other right or remedy and after giving the Contractor and the Contractor's surety seven days written notice, terminate the employment of the

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Contractor. At that time the Owner may take possession of the premises and of all materials, tools and appliances on the premises and finish the work by whatever method the Owner may deem expedient. Cause for such action by the Owner includes:

- .1 the contractor is adjudged bankrupt, or makes a general assignment for the benefit of its creditors, or
- .2 a receiver is appointed due to the Contractor's insolvency, or
- .3 the Contractor persistently or repeatedly refuses or fails to provide enough properly skilled workers or proper materials, or
- .4 the Contractor fails to make prompt payment to Subcontractors or suppliers of materials or labor, or
- .5 the Contractor persistently disregards laws, ordinances or the instructions of the Consultant, or is otherwise found guilty of a substantial violation of a provision of the Contract Documents.

30.2 The Contractor is not entitled, as a consequence of the termination of the employment of the Contractor as described above, to receive any further payment until the Work is finished. If the unpaid balance of the contract amount exceeds the expense of finishing the Work, including compensation for additional architectural, managerial and administrative services, such balance shall be paid to the Contractor. If the expense of finishing the Work exceeds the unpaid balance, the Contractor shall pay the difference to the Owner. The Consultant shall certify the expense incurred by the Contractor's default. This obligation for payment shall continue to exist after termination of the contract.

30.3 The Contractor may, if the Work is stopped by order of any court or other public authority for a period of thirty consecutive days, and through no act or fault of the Contractor or of anyone employed by the Contractor, with seven days written notice to the Owner and the Consultant, terminate this contract. The Contractor may then recover from the Owner payment for all work executed, any proven loss and reasonable profit and damage.

30.4 The Contractor may, if the Consultant fails to issue a certificate for payment within seven days after the Contractor's formal request for payment, through no fault of the Contractor, or if the Owner fails to pay to the Contractor within 30 days after submission of any sum certified by the Consultant, with seven days written notice to the Owner and the Consultant, stop the Work or terminate this Contract.

31. Delays and Extension of Time

31.1 The completion date of the contract shall be extended if the work is delayed by changes ordered in the work which have approved time extensions, or by an act or neglect of the Owner, the Consultant, or the Owner's Contractor, or by strikes, lockouts, fire, flooding, unusual delay in transportation, unavoidable casualties, or by other causes beyond the Contractor's control. The Consultant shall determine the status of all claimed causes.

31.2 The contract shall not be extended for delay occurring more than seven calendar days before the Contractor's claim made in writing to the Consultant. In case of a continuing cause of delay, only one claim is necessary.

31.3 The contract shall not be extended due to failure of the Consultant to furnish drawings if no schedule or agreement is made between the Contractor and the Consultant indicating the dates

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which drawings shall be furnished and fourteen calendar days has passed after said date for such drawings.

- 31.4 This article does not exclude the recovery of damages for delay by either party under other provisions in the Contract Document.

32. Payments to the Contractor

- 32.1 As noted under *Preconstruction Conference* in this section, the Contractor shall submit a Schedule of Values form, before the first application for payment, for approval by the Owner and Consultant. The Consultant may direct the Contractor to provide evidence that supports the correctness of the form. The approved Schedule of Values shall be used as a basis for payments.
- 32.2 The Contractor shall submit an application for each payment ("Requisition for Payment") on a form approved by the Owner and Consultant. The Consultant may require receipts or other documents showing the Contractor's payments for materials and labor, including payments to Subcontractors.
- 32.3 The Contractor shall submit Requisitions for Payment as the work progresses not more frequently than once each month, unless the Owner approves a more frequent interval due to unusual circumstances. The Requisition for Payment is based on the proportionate quantities of the various classes of work completed or incorporated in the Work, in agreement with the actual progress of the Work and the dollar value indicated in the Schedule of Values.
- 32.4 The Consultant shall verify and certify each Requisition for Payment which appears to be complete and correct prior to payment being made by the Owner. The Consultant may certify an appropriate amount for materials not incorporated in the Work which have been delivered and suitably stored at the site. The Contractor shall submit bills of sale, insurance certificates, or other such documents that will adequately protect the Owner's interests prior to payments being certified.
- 32.5 In the event any materials delivered but not yet incorporated in the Work have been included in a certified Requisition for Payment with payment made, and said materials thereafter are damaged, deteriorated or destroyed, or for any reason whatsoever become unsuitable or unavailable for use in the Work, the full amount previously allowed shall be deducted from subsequent payments unless the Contractor satisfactorily replaces said material.
- 32.6 The Contractor may request certification of an appropriate dollar amount for materials not incorporated in the Work which have been delivered and suitably stored away from the site. The Contractor shall submit bills of sale, insurance certificates, right-of-entry documents or other such documents that will adequately protect the Owner's interests. The Consultant shall determine if the Contractor's documentation for the materials is complete and specifically designated for the Project. The Owner may allow certification of such payments.
- 32.7 Subcontractors may request, and shall receive from the Consultant, copies of approved Requisitions for Payment showing the amounts certified in the Schedule of Values.
- 32.8 Certified Requisitions for Payment, payments made to the Contractor, or partial or entire occupancy of the project by the Owner shall not constitute an acceptance of any work that does

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not conform to the Contract Documents. The making and acceptance of the final payment constitutes a waiver of all claims by the Owner, other than those arising from unsettled liens, from faulty work or materials appearing within one year from final payment or from requirements of the Drawings and Specifications, and of all claims by the Contractor, except those previously made and still unsettled.

33. Payments Withheld

- 33.1 The Owner shall retain five percent of each payment due the Contractor as part security for the fulfillment of the contract by the Contractor. The Owner may make payment of a portion of this “retainage” to the Contractor temporarily or permanently during the progress of the Work. The Owner may thereafter withhold further payments until the full amount of the five percent is reestablished. The Contractor may deposit with the Maine State Treasurer certain securities in place of retainage amounts due according to Maine Statute (5 M.R.S. §1746).
- 33.2 The Consultant may withhold or nullify the whole or a portion of any Requisitions for Payment submitted by the Contractor in the amount that may be necessary, in his reasonable opinion, to protect the Owner from loss due to any of the following:
- .1 defective work not remedied;
 - .2 claims filed or reasonable evidence indicating probable filing of claims;
 - .3 failure to make payments properly to Subcontractors or suppliers;
 - .4 a reasonable doubt that the contract can be completed for the balance then unpaid;
 - .5 liability for damage to another contractor.

The Owner shall make payment to the Contractor, in the amount withheld, when the above circumstances are removed.

34. Liens

- 34.1 The Contractor shall deliver to the Owner a complete release of all liens arising out of this contract before the final payment or any part of the retainage payment is released. The Contractor shall provide with the release of liens an affidavit asserting each release includes all labor and materials for which a lien could be filed. Alternately, the Contractor, in the event any Subcontractor or supplier refuses to furnish a release of lien in full, may furnish a bond satisfactory to the Owner, to indemnify the Owner against any lien.
- 34.2 In the event any lien remains unsatisfied after all payments to the Contractor are made by the Owner, the Contractor shall refund to the Owner all money that the latter may be compelled to pay in discharging such lien, including all cost and reasonable attorney’s fees.

35. Workmanship

- 35.1 The Contractor shall provide materials, equipment, and installed work equal to or better than the quality specified in the Contract Documents and approved in submittal and sample. The installation methods shall be of the highest standards, and the best obtainable from the respective trades. The Consultant’s decision on the quality of work shall be final.

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- 35.2 The Contractor shall know local labor conditions for skilled and unskilled labor in order to apply the labor appropriately to the Work. All labor shall be performed by individuals well skilled in their respective trades.
- 35.3 The Contractor shall perform all cutting, fitting, patching and placing of work in such a manner to allow subsequent work to fit properly, whether that be by the Contractor, the Owner's Contractors or others. The Owner and Consultant may advise the Contractor regarding such subsequent work. Notwithstanding the notification or knowledge of such subsequent work, the Contractor may be directed to comply with this standard of compatible construction by the Consultant at the Contractor's expense.
- 35.4 The Contractor shall request clarification or revision of any design work by the Consultant, prior to commencing that work, in a circumstance where the Contractor believes the work cannot feasibly be completed at the highest quality, or as indicated in the Contract Documents. The Consultant shall respond to such requests in a timely way, providing clarifying information, a feasible revision, or instruction allowing a reduced quality of work. The Contractor shall follow the direction of the Consultant regarding the required request for information.
- 35.5 The Contractor shall guarantee the Work against any defects in workmanship and materials for a period of one year commencing with the date of the Certificate of Substantial Completion, unless specified otherwise for specific elements of the project. The Work may also be subdivided in mutually agreed upon components, each defined by a separate Certificate of Substantial Completion.
36. Close-out of the Work
- 36.1 The Contractor shall remove from the premises all waste materials caused by the work. The Contractor shall make the spaces "broom clean" unless a more thorough cleaning is specified. The Contractor shall clean all windows and glass immediately prior to the final inspection, unless otherwise directed.
- 36.2 The Owner may conduct the cleaning of the premises where the Contractor, duly notified by the Consultant, fails to adequately complete the task. The expense of this cleaning may be deducted from the sum due to the Contractor.
- 36.3 The Contractor shall participate in all final inspections and acknowledge the documentation of unsatisfactory work, customarily called the "punch list", to be corrected by the Contractor. The Consultant shall document the successful completion of the Work in a dated Certificate of Substantial Completion, to be signed by Owner, Consultant, and Contractor.
- 36.4 The Contractor shall not call for final inspection of any portion of the Work that is not completely and permanently installed. The Contractor may be found liable for the expenses of individuals called to final inspection meetings prematurely.
- 36.5 The Contractor and all major Subcontractors shall participate in the end-of-warranty-period conference, typically scheduled close to one year after the Substantial Completion date.

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37. Date of Completion and Liquidated Damages

- 37.1 The Contractor may make a written request to the Owner for an extension or reduction of time, if necessary. The request shall include the reasons the Contractor believes justifies the proposed completion date. The Owner may grant the revision of the contract completion date if the Work was delayed due to conditions beyond the control and the responsibility of the Contractor. The Contractor shall not conduct unauthorized accelerated work or file delay claims to recover alleged damages for unauthorized early completion.
- 37.2 The Contractor shall vigorously pursue the completion of the Work and notify the Owner of any factors that have, may, or will affect the approved Schedule of the Work. The Contractor may be found responsible for expenses of the Owner or Consultant if the Contractor fails to make notification of project delays.
- 37.3 The Project is planned to be done in an orderly fashion which allows for an iterative submittal review process, construction administration including minor changes in the Work and some bad weather. The Contractor shall not file delay claims to recover alleged damages on work the Consultant determines has followed the expected rate of progress.
- 37.4 The Consultant shall prepare the Certificate of Substantial Completion which, when signed by the Owner and the Contractor, documents the date of Substantial Completion of the Work or a designated portion of the Work. The Owner shall not consider the issuance of a Certificate of Occupancy by an outside authority a prerequisite for Substantial Completion if the Certificate of Occupancy cannot be obtained due to factors beyond the Contractor's control.
- 37.5 Liquidated Damages may be deducted from the sum due to the Contractor for each calendar day that the Work remains uncompleted after the completion date specified in the Contract or an approved amended completion date. The dollar amount per day shall be calculated using the Schedule of Liquidated Damages table shown below.

If the original contract amount is:	The per day Liquidated Damages shall be:
Less than \$100,000	\$250
\$100,000 to less than \$2,000,000	\$750
\$2,000,000 to less than \$10,000,000	\$1,500
\$10,000,000 and greater	\$1,500 plus \$250 for each \$2,000,000 over \$10,000,000

38. Dispute Resolution

38.1 Mediation

- 38.1.1 A dispute between the parties which arises under this Contract which cannot be resolved through informal negotiation, shall be submitted to a neutral mediator jointly selected by the parties.
- 38.1.2 Either party may file suit before or during mediation if the party, in good faith, deems it to be necessary to avoid losing the right to sue due to a statute of limitations. If suit is filed before good faith mediation efforts are completed, the party filing suit shall agree to stay all proceedings in the lawsuit pending completion of the mediation process, provided such stay is without prejudice.

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38.1.3 In any mediation between the Owner and the Consultant, the Owner has the right to consolidate related claims between Owner and Contractor.

38.2 Arbitration

38.2.1 If the dispute is not resolved through mediation, the dispute shall be settled by arbitration. The arbitration shall be conducted before a panel of three arbitrators. Each party shall select one arbitrator; the third arbitrator shall be appointed by the arbitrators selected by the parties. The arbitration shall be conducted in accordance with the Maine Uniform Arbitration Act (MUAA), except as otherwise provided in this section.

38.2.2 The decision of the arbitrators shall be final and binding upon all parties. The decision may be entered in court as provided in the MUAA.

38.2.3 The costs of the arbitration, including the arbitrators' fees shall be borne equally by the parties to the arbitration, unless the arbitrator orders otherwise.

38.2.4 In any arbitration between the Owner and the Consultant, the Owner has the right to consolidate related claims between Owner and Contractor.

GENERAL CONDITIONS

1.1 GENERAL:

- A. Unless otherwise specified, the drawings and specifications are intended to include everything necessary to the proper and entire finishing of the work. The drawings accompanying this specification, as a part thereof, are working drawings indicating the location and arrangement of the increments of the systems of this section of work. Material deviation from this arrangement, process or means of application, shall bear the Engineer's review stamp before the change is made on the job or materials are ordered. Changes made without such review shall be ordered removed and items installed as specified shall be provided at no additional expense to the Owner. The drawings are not intended to show in minor detail items of installation or materials such as specific fittings or findings. Accordingly, all work is to be done under all headings in connection with the work to carry out the drawings and specifications, whether each item is mentioned herein or not.
- B. The Contract Documents are complementary and what is called for by one shall be as binding as if called for by all. The intention of the documents is to include all labor and materials, equipment and transportation necessary for the proper execution of the work. Materials or work described in words which so applied have a well-known technical or trade meaning shall be held to refer to such recognized standards.
- C. The clauses in these General Conditions, unless otherwise mentioned, are to apply to all parts of the work and the Contractor shall be held responsible for the same regardless whether the term "Contractor" or "General Contractor" is used in these General Conditions and in the Specifications.

1.2 DEFINITIONS:

- A. The Contract Documents consist of the Fixed Price Construction Contract, the General Conditions of the Contract, Agenda, if any, the Bid Proposals, the Drawings and Specifications, including all modifications thereof incorporated in the documents.

These form the contract.

- B. The "Owner" is State of Maine, Judicial Branch, Augusta, Maine 04330.
- C. The "Engineer" is the preparer of the Specification Book as listed on the title page.
- D. The term "Contractor" in the General Conditions is to be considered as the individual, firm, company or corporation mentioned as such in the agreement and with whom the Owner has entered into a direct agreement for the performance of the work described in the Specifications and shown on the Drawings.
- E. The term "Subcontractor" as employed herein includes only those having a direct contract with the "Contractor", and it includes one who furnishes material worked to a special design according to drawings and specifications of this work.
- F. The term "provide" is a term used throughout all Divisions, meaning "to furnish, install and connect completely in the specified or an approved manner the item and/or material described". Mandatory requirements of this Specification are characterized by the word "shall" or "will". Advisory requirements are characterized by the word "should" or "may".
- G. The term "work" of the contractor includes labor, materials or both, including equipment and transportation necessary for the completion of the contract.
- H. Where the letters A.S.T.M. are used, the same refer to the American Society for Testing and Materials.
- I. Where the letters A.W.W.A. are used, they signify the American Water Works Association.
- J. Where the letters A.C.I. are used, the same refer to the American Institute of Steel Construction.
- K. Where the letters A.C.I. are used, they refer to the American Concrete Institute.
- L. Where the letters A.S.A. are used, they refer to the American National Standards Association.
- M. Where the term Fire Underwriters is used, it refers to the National Board of Fire Underwriters.

1.3 APPLICABLE CODES

- A. Work and materials shall conform to the latest rules and regulations listed below and these rules and regulations hereby are made part of this specification. They include, but are not necessarily limited to the following:

American Society for Testing and Materials (ASTM)
Underwriters' Laboratories, Inc. (UL)
Air Moving and Conditioning Assoc. (AMCA)
American Society of Heating, Refrigerating, and Air
Conditioning Engineers (ASHRAE)
American Society of Mechanical Engineers (ASME)
National Electrical Manufacturers Association (NEMA)
Institute of Electrical and Electronics Engineers (IEEE)
American National Standards Institute (ANSI)
Local and State Fire Code
The Board of Fire Underwriters
Local and State Plumbing Codes
American Welding Society
Building Officials Code Administration (BOCA)
Office of Safety and Health Administration (OSHA)

1.4 ORDINANCES, AUTHORITIES, PERMITS, AND FEES

- A. Obtain necessary permits and licenses, give notices and comply with laws, ordinances, rules, regulations or orders affecting the work, and pay fees and charges in connection therewith.
- B. The "authority having jurisdiction" is the organization, office, or individual responsible for "approving" equipment, an installation, or a procedure.

1.5 MATERIAL AND LABOR

All Contractors shall properly protect the Owner's property from injury. Any damage to same shall be made good without delay.

Each Contractor shall be held responsible for all damage known to have been caused by him or his Subcontractors and shall bear the expense of removing, reconstructing, replacing, or refinishing the damaged materials and work, the cost of making good other work affected thereby, and the cost of delays resulting therefrom.

Contractors and Subcontractors shall handle all materials as directed by Owner so that it may be inspected by the Engineer or Owner. When any room in the building is used during the construction as a shop, storeroom, office or other similar use, the Contractor or Subcontractor shall make any repairs, patching or cleaning arising from such use.

The Contractors and Subcontractors shall confine their apparatus, equipment, storage of materials and the operation of their workmen to the limits indicated by all ordinances, permits or directions of the Engineer, or Owner and shall not unreasonably encumber the premises with their material. No Contractor or Subcontractor shall load or permit any part of the structure to be loaded with a weight that will endanger its safety.

All work and material of every description liable to injury during construction, shall be fully protected against damage from any source. Materials affected by weather shall be covered and protected to keep them free from damage while being transported to the site. Should any material be found defective in any way contrary to the contract, this material, no matter in what state of completion, may be rejected by the Engineer or Owner and shall be removed forthwith from the premises. During adverse weather, Contractor shall take all necessary precautions so that work may be properly done and satisfactory in all respects. When required, protection shall be provided by use of tarpaulins, wood and building paper shelters or other approved means, at the expense of the Contractor.

The Contractor shall provide and maintain warning signs, lights, barricades, railings, and other safeguards for the protection of workmen, office employees, and others on, about, or adjacent to the work as required by the condition and progress of the work and as directed by the Owner.

The Contractor shall provide all temporary enclosures, dust partitions, coverings, etc., for the protection of office employees, and general public as well as for the protection of the structure during construction, deem necessary either by the Contractor or by the owner, and until completion of the work. Any damage caused by insufficient or faulty protection shall be made good under this heading, without expense of the Owner.

Materials stored on the site by the Contractor shall be amounts and locations approved by the Owner and shall not interfere with or create a hazard to Owner's activities.

The Contractor shall furnish materials and labor necessary to deliver to the Owner a complete and operable system installed in accordance with the contract documents.

Materials shall be of the best quality. Workmanship shall be of highest grade and construction shall be done according to best practices of the trade.

Contractor shall provide, when required, labeled samples of material or equipment specified herein or proposed to be used in this work.

Where words "furnish", "provide", or "install" are mentioned, either singly or in combination, these words are hereby interpreted to mean "furnish and install" or "provide and install", including materials complete with connections, supplemental devices, accessories and appurtenances, unless specifically otherwise noted. These words are likewise hereby interpreted as being prefixed to materials, equipment, and apparatus hereinafter mentioned, either in abbreviated or scheduled information or in the technical sections of the specifications.

1.6 OWNER'S PROTECTION

The Contractor, all Subcontractors and their employees shall be subject to and shall at all time conform to the Owner's rules and requirements for the protection of the facility. materials, equipment and Owner's employees.

Contractor shall perform any work and shall furnish and install any materials and equipment necessary during an emergency endangering life or property. In all times he shall notify Owner of emergency as soon as possible, but he shall not wait for instructions before proceeding to properly protect both life and property.

Smoking on the premises will be permitted only in areas where Owner's regulations do not forbid it. Employees of the Contractor and Subcontractor will be held to be governed by

Owner's restrictions and rules with respect to smoking.

1.7 BIDS AND CONTRACTS:

Bids will be received for the contract in the form stated in the Bid Proposal. Contractor shall then be responsible for the satisfactory completion of the work under said contract in accordance with the drawings and specifications.

No proposal will be considered which contains any erasures or written memorandum qualifying same, or which is not properly made out and signed by bidder or an authorized agent of the bidder. If the bidder is a corporation, the proposal shall be signed in writing by a properly authorized officer of the corporation.

Contract to be awarded by Owner for work is to be in form similar to sample "Fixed Price Construction Contract" attached hereto. In the event of any conflicts between the Contract and these General Conditions, the Contract shall prevail.

All bid proposals must be sealed and marked as instructed per "Instruction to Bidders".

The Owner reserves the right to accept or reject in whole or part, as well as reserves the right to negotiate any bid made in response to this invitation.

1.8 BID SECURITY DEPOSIT

All bids shall be submitted with a bid security deposit by Bid Bond in the amount of not less than 5% of the bid price.

Deposit shall be endorsed in the name of the owner as obligee, signed and sealed by the Contractor as principal and the surety. This deposit will be returned after delivery to Owner of the required 100% Performance and 100% Payment Bonds by the accepted Bidder. Cost of the bid deposit shall be included in the bid price.

After acceptance of bid, all deposits shall be returned to their respective bidders.

1.9 PERFORMANCE ASSURANCE

The accepted Bidder shall provide a 100% performance and payment bond on form which shall be provided. The Contractor (Bidder) shall include the cost of Performance and Payment bonds in the bid price.

1.10 SALES AND APPLICABLE TAXES:

All bid proposals submitted in connection with the work called for shall not include any sales taxes or other taxes applicable to the performance of the work.

1.11 EXAMINATION OF SITE:

Before submitting proposals, the bidder shall visit the site of the work and acquaint himself fully with all the existing conditions and limitations.

1.12 SUBCONTRACTS:

The Contractor shall submit with his bid to the Owner, a list of all Subcontractors that he proposes to consider for use in the performance of the work, and shall not employ any to whom the Owner shall have objection.

If the Owner shall require a change in any subcontractor after the list has been approved, whether before or after the execution of the contract, the contract price shall be increased or decreased by the difference in cost occasioned by such a change.

The Contractor agrees that he is fully responsible to the Owner for the acts and omissions of his Subcontractors, and persons either directly or indirectly employed by them as he is for the acts and omissions of persons directly employed by him. Nothing contained in the Contract Documents shall create any contractual relation between Subcontractor and Owner.

The Contractor shall bind and have every Subcontractor agree to be bound by the terms of the contract as far as applicable to his work, unless specifically noted to the contrary in the Subcontract approved as adequate by the Owner.

1.13 SEPARATE CONTRACTS:

- A. There shall be cooperation and coordination with respect to time, space, work, etc., between all Contractors and no claims for extra compensation or extension of contract time will be allowed for conditions resulting from lack of said cooperation and coordination. In case of dispute the Engineer and/or Owner's decision on matters relating to the execution and progress of the work shall be final.
- B. If any Contractor's work depends upon the work of any other Contractor, the Contractor so affected shall inspect and promptly report to the Engineer, and/or Owner any defects in such work that render it unsuitable for such proper execution and results. Failure of any Contractor to so inspect and report shall constitute an acceptance of the other Contractors' work as fit and proper to the reception of this work.
- C. Where space is so limited that Contractor's work will be installed in close proximity to the work of others; or where it is evident that Contractor's work will interfere with others, he shall assist in working out space condition to make satisfactory adjustments. If required or directed by or Engineer, the Contractor shall prepare composite working drawings and section of not less than 3/4" = 1'0" scale clearly showing how his work is to be installed in conjunction with others. If Contractor installs any work before coordinating with others and such work interferes with others, he shall make corrections necessary to satisfactorily complete installation at no additional cost to Owner.
- D. Should any Contractor cause damage to any other Contractor on the work, the Contractor at fault agrees, upon due notice, to settle by agreement if he will so settle. If any Contractor sues the Owner on account of any damage alleged to have been so sustained, the Owner shall notify the Contractor at fault, who shall defend such proceedings at the Contractor's expense, and if any judgement against the Owner arises therefrom, the Contractor shall pay or satisfy it and pay all costs incurred by the Owner.
- E. If any Contractor furnished material or equipment to be installed by other Contractor, he shall, unless otherwise directed, deliver such material or equipment to the warehouse or storeroom of the Contractor who is to install same. All such material or equipment shall be properly marked to indicate the intended location and use.

1.14 PRODUCT SUBSTITUTIONS & DEVIATIONS:

- A. Drawings and specifications indicate manufacturer, model or type, or materials to be used as a standard for Contractor's bid, and all bids shall be based on equipment or materials specified. If the Contractor desires to use equipment or materials of a make or type other than those specified or shown on Drawings, he shall name such in the space provided in the Bid Proposal, by manufacturer, model, etc., together with deductions or additions to his base bid. If no such information is furnished, it is mutually agreed that equipment and material shall be furnished in accordance with these Specifications and Drawings.
- B. Wherever more than one manufacturer is mentioned in Specifications and Drawings, any of those names are considered equally acceptable to that one upon which design was based, providing all requirements are met insofar as performance, space requirements, noise levels and special accessories or materials are concerned, and any of those named may be included in Contractor's bid.
- C. Where Contractor proposes to use an item of equipment which differs from that upon which design was based, which requires and redesign of structure, partitions, foundations piping, wiring or of any other part of Mechanical or Electrical layout, all such redesign new drawings of detailing required, shall be prepared by Contractor at his own expense for approval of Engineer or Owner.
- D. Where approved substitutions or deviations require a different quantity, size or arrangements of structural supports, wiring, conduit, piping, ductwork, and equipment from that upon which design was based, additional items required by the system shall, with approval of the Engineer and Owner, be furnished and installed by Contractor at no additional cost of Owner.

1.15 SPECIFICATIONS AND DRAWINGS

This specification and the accompanying drawings are intended to describe and provide for a finished piece of work. They are intended to be cooperative, and what is called for by either shall be as binding as if called for by both.

It is understood and agreed by the Contractor that the work herein described shall be complete in every detail, even though every item necessarily involved is not particularly mentioned. The Contractor shall be held to provide all labor and materials necessary for the entire completion of the work intended to be described, and shall not avail himself of any manifestly unintentional error or omission should such exist.

Should any error or inconsistency appear in the drawings or specifications, the Contractor, before proceeding with the work, shall notify the Engineer for proper adjustment, and in no case shall he proceed with the work in uncertainty.

Details furnished the Contractor after award of contracts are intended to correspond with scale of drawings. Where such differ, incurring additional work, the Contractor shall immediately, upon receipt of such details, call the Engineer's attention to same for proper adjustment before starting work covered by said detail, and shall not proceed unless he receives an order in writing from the Engineer. No extra charge will be allowed unless so ordered by Engineer.

While the specifications may be subdivided into trades for the distinct purpose of facilitating the work, any item mentioned under any heading must be supplied even though it may not be called for again under the heading for the respective work. The Contractor will also be held to do any required cutting and altering of, and fitting to, his work, partially or entirely completed, to make possible other work, including that of trades not part of the Contract even though not especially covered under subheadings.

1.16 SIGNED DRAWINGS AND SPECIFICATION:

Immediately on signing the Contract for the performance of the work, the Contractor shall sign and file with the Owner a complete set of Drawings and Specifications, including all modifications thereof, as additional evidence of his understanding of the work required.

1.17 SHOP DRAWINGS:

Contractor shall submit to the Engineer two (2) copies of detailed dimensioned drawings of all equipment showing construction, size, arrangement, performance characteristics, operating clearances, capacity of equipment, electrical characteristics, and accessories as specified or shown on Drawings. All equipment unless otherwise specified shall be a standard catalogued product of an established manufacturer, of equal quality, durability and finish to that specified. Engineer may also request drawings for approval of any items to be constructed or fabricated by Contractor.

Drawings, catalogs, samples, specifications, etc., submitted for review shall be clearly labeled indicating equipment, number (per schedule on drawings), specific service or use, job names, Contractor's name, and Manufacturer's name and address. Items for which review is being requested shall be specific, and identification in catalog, pamphlet or drawings shall be clearly made in ink. Data of a general nature, or incomplete in any respect will not be accepted.

Following approval of shop drawings, no further changes will be considered without written application from Contractor, and will not be allowed without written consent of Engineer or approval of Owner. Approval of shop drawings does not apply to quantities, nor relieve Contractor of his responsibility or necessity of furnishing material, or performing work required by Contract Drawings and Specifications. Approval of shop drawings shall not be considered a guarantee of measurements or of building conditions.

Unless otherwise specified, not less than four (4) copies of all Contractor's and Subcontractor's drawings shall be submitted to the Engineer for review.

All Contractor's drawings submitted for approval shall be sent direct to the Engineer. All drawings submitted by Subcontractors under the Contractor for approval by the Engineer, shall first be sent by the Subcontractors direct to the Contractor who shall keep a record of the drawing numbers and date of receipt.

The Contractor shall check thoroughly all Subcontractor's drawings as regards measurements, sizes of members, materials and details to satisfy himself and conform to the intent of the Engineer's plans and specifications. Drawings found to be inaccurate or otherwise in error shall be returned to the Subcontractors for correction before submitting them to the Engineer. After the Engineer has checked and approved such drawings, he shall place thereon the date of approval and signature of the checker and then submit them to the Owner for review.

All Contractor's and Subcontractor's drawings shall be submitted in the order in which materials are needed at the site without necessarily waiting for completion of all drawings before submitting part of them for approval.

The Engineer's or Owner's approving or reviewing of the Contractor's and Subcontractor's drawings does not relieve the Contractor from responsibility for errors or omissions which may exist, even though work is done in accordance with such approved or reviewed drawings. Approval or review of Contractor's and Subcontractor's drawings by the Engineer and Owner does not thereby assume responsibility for errors or omissions. Where such errors or omissions are discovered later, they shall be made good by the Contractor irrespective of any review by the Engineer or Owner.

1.17 COPIES OF WORKING DRAWINGS AND SPECIFICATIONS:

The Contractor will be furnished free of charge three (3) sets of the Drawings and Specifications.

All original or duplicate drawings and specifications and other data prepared by Engineer or Owner shall be property of Owner, and they shall not be reused on other work, but shall be returned to Owner upon completion of work.

1.18 INFORMATION ON EXISTING UTILITIES:

All information given on drawings, or on Contract Documents, relating to materials encountered, groundwater, existing pipes and other structures is from best sources at present available to Owner. All such information and drawings of existing construction is furnished only for information and convenience of Bidders.

1.19 SCHEDULING, COORDINATION, AND TIME OF COMPLETION:

- A. Prior to the signing of the Contract, the Contractor shall prepare a definite progress schedule which shall immediately furnish a copy to the Engineer for approval. The Contractor shall carry out the work in accordance with the approved schedule.

- B. The Contractor shall place orders for materials and equipment sufficiently in advance of required delivery at the job site to allow adequate time for (1) approval and processing of shop drawings, (2) coordination with other related shop drawings, and (3) coordination with other trades prior to installation.

Contractor shall schedule work of all trades with each other to avoid conflicts, to avoid delays, and to avoid changes in the intended appearance of accessibility of equipment and other parts of the work.

The site of the project is presently utilized by the Owner. Owner operations are to continue during the work of the project and Contractor is to maintain access to site of Owner's and Owner's Tenant operations at all times. Interference with Owner's or Tenant's operations for short periods of time may be permitted if scheduled and approved in advance by the Owner. No request for temporary suspension of Owner activities will be considered unless submitted more than 48 hours in advance.

Exit ways from buildings for Owner's personnel are to be kept open at all times.

- C. It is not incumbent upon the Owner to notify the Contractor when to begin to cease or resume work, to give early notice of the rejection of faulty work, nor in any way to superintend so as to relieve the Contractor of responsibility or of any consequence of neglect or carelessness by him or his subordinates.

All materials and labor shall be furnished at such times as shall be for the best interest of all Contractors concerned, to the end that the combined work of all may be properly and fully completed on schedule.

1.20 CONTRACTOR'S MEETING:

At intervals determined by the Engineer, and Owner, there shall be held, at the jobsite, meetings of the representatives of the various trades engaged on the project to further the progress of the work. The time and place of these meetings shall be established by the Engineer and Owner. These meetings shall be called by the Owner who shall require attendance by representatives of the contractor (and their Subcontractors, if required).

1.21 METHODS OF CARRYING ON WORK:

The Contractor shall consult with the representative of the Owner as to the methods of carrying on the work so as not to interfere unduly with the Owner's operations, as well as to the space available for storage of materials and location of plant, places of access to the work and other similar needs, all to provide the best possible reasonable arrangement to meet the requirements of the Owner.

If it becomes necessary, in the opinion of the Engineer, or Owner, at any time during the performance of the work to move materials which are to enter into the construction, or equipment which has been temporarily placed, the Contractor furnishing said materials or equipment shall, when so directed by the Engineer, or Owner, move them or cause them to be moved with our additional charge.

The Contractor agrees with the Owner to let the Owner place and install as much equipment during the progress of the work as is possible without serious interference with the orderly and proper procedure of the construction, before the completion of the various parts of the work, and further agrees that such placing and installation of equipment does not in any evidence, constitute completion of the work or any portion of it, nor signify the Owner's acceptance of the work nor any part of it.

1.22 COOPERATION BETWEEN TRADES:

Contractor shall provide information sufficiently in advance of this work, so that work by the other trades may be coordinated and installed without delays. Furnish and locate sleeves, supports, anchors and necessary access panels.

Where work is concealed, Contractor shall assure it does not project beyond finished lines of floors, ceilings, or walls.

Equipment or piping requiring access found to be located above sheetrock ceilings shall be brought immediately to the attention of the Engineer for resolution.

1.23 PROMPTNESS OF EXECUTION:

It is not incumbent upon the Owner to notify the Contractor when to begin, to cease or resume work, nor to give early notice of the rejection of faulty work, nor in any way to superintend so as to relieve the Contractor of responsibility or of any consequence of neglect or carelessness by him or by his subordinates. All materials and labor shall be furnished at such times as shall be for the best interest of all Contractors concerned, to the end that the combined work of all may be properly and fully completed on schedule.

Any employee of any Contractor to whom the Owner considers detrimental to the proper carrying out of the work shall be removed promptly on the request of the Owner.

1.24 SUPERVISION:

The Contractor shall keep on the work during its progress a competent Superintendent and any necessary assistants, all to be approved by the Owner. The Superintendent shall represent the Contractor on the site of the work and any directions given to him shall be as binding as if given to the Contractor. On request, all such directions will be confirmed in writing.

The Superintendent assigned to the work, and approved by the Owner, shall remain on the site until the work has been completed and accepted by the Owner. If, however, the Superintendent or any assistants prove unsatisfactory to the Owner, he shall be replaced upon request of the Owner.

1.25 POSSESSION PRIOR TO COMPLETION:

The Owner shall have the right to take possession of or use any completed or partially completed part of the work; such possession or use shall not be deemed an acceptance of any work not completed in accordance with the Contract.

If in the judgement of the Owner, it becomes necessary at any time to change work in progress from a particular location to some other point in order to meet the need of the

Owner for the occupancy or use of any part of the structure being constructed, the Contractor shall cooperate with the Engineer, or Owner, rearranging his schedule of work and the assignment of his men to meet the Owner's needs, all at no cost to the Owner.

1.26 OPERATING AND MAINTENANCE DATA:

Contractor shall prepare and submit Operating and Service Manuals for his work. Include manufacturer's erection operating and maintenance data, and data for any special equipment which requires adjustment or special attention. Manuals must be submitted at least two weeks prior to start of instructions to Owner Minimum of six (6) copies shall be submitted.

1.27 TEMPORARY POWER:

The Owner shall provide all temporary power (for small tools) and lighting requirements.

It shall be the Contractor's responsibility to provide sufficient outlets for work of all trades and adequate general safety lighting.

At all points of connection for temporary power, Contractor shall provide and maintain approved ground fault protective devices.

Contractor shall provide at Contractor's expense portable power generating units for welding as may be required for site utilities installations and other work where outlets are not available.

1.28 WATER:

The Owner shall furnish all water required for the construction. Contractor shall provide all temporary water services and shall be removed by the contractor upon completion of the work.

1.29 SANITARY FACILITIES:

The Owner shall provide sanitary accommodations for the use of workmen and those of others engaged in his work. Sanitary facilities shall be maintained in a clean and sightly condition. The Contractor shall not permit any sanitary nuisance to be committed by his employees in or about the work or site and shall enforce all sanitary laws and requirements of the State and/or local Health Authorities.

1.30 PARKING:

Due to the restricted and/or limited area at the Project, the Contractor's employees parking will be allowed on the site adjacent to the work area in locations where directed and/or approved by the Owner.

PART 2 EXECUTION

2.1 MANUFACTURER'S INSTRUCTIONS:

Contractor is responsible for installing all equipment which he furnishes in accordance with the manufacturer's instructions or requirements for proper operation and maintenance. Installation requirements and details of different manufacturers may vary, therefore, the Contractor shall check each manufacturer's equipment before submitting his bid.

If such instructions or requirements conflict with the plans and specifications, the Contractor shall obtain instructions from the Engineer before violating the manufacturer's requirements.

Equipment shall be installed in accordance with the plans and specifications wherever either exceeds the manufacturer's requirements.

2.2 SURVEYS:

All lines and levels necessary to the location and construction of the work under the contract shall be established and maintained by a competent surveyor who shall be employed and paid by the Contractor.

2.3 FIRE PROTECTION:

The Contractor shall provide and maintain during construction suitable approved fire extinguishers in good working order, to be located at such points as the representative of the Engineer or Owner may direct. The Contractor is only responsible for temporary fire protection if unusual or hazardous conditions are created as a result of construction. Fire extinguishers shall be of a type suitable for the hazards to be encountered.

No open fires will be permitted. No welding, flame cutting or other operations involving the use of flame, arcs or sparking devices will be allowed without adequate protection and permission of the Owner.

2.4 CUTTING AND PATCHING:

Contractor shall be responsible for all cutting and patching, and finish work. Finish work including painting shall be coordinated with Owner. Contractor shall consult with the Owner regarding proper location and size of openings in chase ways etc. for piping and equipment. In case of his failure to leave or cut chases or openings in the proper place, he shall cut them or have them cut afterwards at his own expense. No excessive cutting will be permitted, nor shall any piers or other structural members be cut without the consent of the Engineer, or Owner.

Coordinate the placing of sleeves, inserts or other material which is to be cast into concrete or masonry where required. Consult with the Engineer in regard to exact location whenever there is any interference with steel reinforcement, joists, beams, etc. Provide all sleeves and inserts and maintain them in their proper positions.

The Contractor shall include in his Proposal all necessary removals, repairs and connecting work required to properly complete the alterations and additions shown on the drawings whether each item is shown or called for on drawings and/or herein specified or not. Any material scheduled for removal may be redeemed by the Owner by his request.

The Contractor shall be required to use dust partitions in those areas which dust and debris will interfere with the normal use of such areas as offices, hallways, etc., either during demolition of existing or new construction.

2.5 EQUIPMENT, TOOLS AND MATERIALS:

Unless otherwise specified, all materials shall be new and both workmanship and materials shall be of good quality. The Contractor shall, if required, furnish satisfactory evidence as to the kind and quality of materials.

No power actuated tools, such as "Ramset" guns or like devices will be allowed without adequate protection and permission from the Owner.

2.6 CLEANING OF PREMISES:

The Contractor and each Subcontractor shall at all times keep the premises free from accumulation of waste materials or rubbish caused by his employees or work. Old equipment which has been replaced by new equipment shall be removed from or stored on the premises as directed by the Owner and at the Contractor's expense.

If, in the opinion of the Engineer, or Owner, the Contractor or any Subcontractor neglects, or fails to keep the premises free from accumulation of waste materials or rubbish, the Owner may act, at his discretion, to remove the rubbish and charge the cost to the Contractor or to the several Subcontractors at fault.

The Contractor shall, upon completion of the work leave the building or buildings broom-clean, unless more exactly specified, to the complete satisfaction of the Owner.

2.7 CONNECTING TO EXISTING WORK:

Final connections to all systems requiring temporary shutdown for said connection shall not be performed during normal working hours unless specifically allowed by Owner. Said work shall be scheduled at the convenience of Owner on an overtime basis to be done after normal working hours daily, Saturdays, Sundays or holidays. Contractor shall include in this Proposal the expense of any overtime work for those connections shown on drawings requiring temporary shutdown of service.

2.8 RIGGING, HAULING AND STORAGE:

All costs of rigging, hauling, storage, proper protection, labor, etc, necessary to deliver and set in place all equipment specified shall be borne by the Contractor responsible for the installation of said equipment.

2.9 MOVING MATERIALS:

If it becomes necessary, in the opinion of the Engineer, or Owner, at any time during the performance of the work to move materials which are to enter into the construction, or equipment which has been temporarily placed, the Contractor furnishing said materials or equipment shall, when so directed by the Engineer, or Owner, move them or cause them to be moved without additional charge to the Owner.

2.10 MEASUREMENT AND FITTING OF PARTS:

The Contractor, without extra charge, shall make such slight alterations as may be necessary to make adjustable parts fit to fixed parts, leaving all complete and in proper shape when done. The Contractor shall verify all dimensions given in the drawings and shall report any error or inconsistency to the Owner before commencing the work.

2.11 PAINTING AND FINISH CARPENTRY:

Contractor shall provide costs in his proposal to perform all necessary finish work along with painting that is associated with the project. This work to be coordinated with Owner.

2.12 REMOVALS AND RELOCATIONS:

Removals shall be performed without damage to adjacent retained work; however, where such work is damaged, patch, repair, or otherwise restore adjacent retained work to its original condition. Existing materials, fixtures, and equipment which have been removed or disconnected but are not indicated or specified for reuse in the new work shall be removed from the site at no expense to the Owner. However, the Owner reserves the right to direct the contractor to deliver certain removed items such as plumbing fixtures, door frames, etc.. Removals shall be as indicated, and shall be performed in a neat and workmanlike manner to the limits indicated or specified, or to the minimum extent necessary or required for the proper installation of new work. Existing surfaces remaining after removals to which new work is to be applied shall be left in a condition suitable for the application of the new work.

Relocations shall be as indicated and shall be performed by workmen skilled in the trade involved. The removal and reinstallation of relocated items shall be performed in a neat and workmanlike manner and items to be relocated which are damaged shall be repaired or replaced with new undamaged items as reviewed by the Engineer. The cost of relocations in order to install new work shall be included as part of the contract bid price. Relocations shall include associated piping, wiring, controls, ductwork, hangers, and supports.

Patching: Where removals leave holes and damaged surfaces that will be exposed in the finished work, these holes and damaged surfaces shall be patched and repaired to match adjacent finished surfaces. Where new work is to be applied for existing surfaces, removals and patching shall produce surfaces that are suitable for the provision of the new work. Patching shall be performed in a neat and workmanlike manner. Finished surfaces of patched area shall be flush with the adjacent existing

surface and shall match the existing adjacent surface as closely as possible as to texture and finish.

2.13 EQUIPMENT SUPPORTS:

Furnish and install equipment supports for mechanical equipment as required. Supports shall be subject to review by the Engineer.

2.14 SLEEVES AND PREPARED OPENINGS:

Coordinate cutting, patching and setting of sleeves, frames, framing and lintels for openings with other trades. Sleeves shall be furnished by the Contractor.

Failure to give timely notice of and to locate openings and furnish sleeves shall cause no additional expense to the Owner.

END OF SECTION

00 73 46
Wage Determination Schedule

PART 1- GENERAL

1.1 Related Documents

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

1.2 Summary

- A. This Section includes the wage determination requirements for Contractors as issued by the State of Maine Department of Labor Bureau of Labor Standards or the United States Department of Labor.

1.3 Requirements

- A. Conform to the wage determination schedule for this project which is shown on the following page.

PART 2 - PRODUCTS (not used)

PART 3 - EXECUTION (not used)

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00 73 46

Wage Determination Schedule

THIS DOCUMENT MUST BE CLEARLY POSTED AT ALL CONSTRUCTION SITES FUNDED IN PART WITH STATE FUNDS

State of Maine
Department of Labor
Bureau of Labor Standards
Augusta, Maine 04333-0045
Telephone (207) 623-7906

Wage Determination - In accordance with 26 MRS §1301 et. seq., this is a determination by the Bureau of Labor Standards, of the fair minimum wage rate to be paid to laborers and workers employed on the below titled project.

2026 Fair Minimum Wage Rates – Building 2 Knox County (other than 1 or 2 family homes)

Occupational Title	Minimum Wage	Minimum Benefit	Total
Brickmasons and Blockmasons	\$43.91	\$28.47	\$72.38
Bulldozer Operator	\$30.62	\$3.38	\$36.00
Carpenter	\$27.70	\$7.05	\$34.75
Cement Masons and Concrete Finisher	\$27.44	\$0.87	\$28.31
Construction and Maintenance Painters	\$29.16	\$3.32	\$32.48
Construction Laborer	\$25.32	\$2.04	\$27.36
Conveyor Operators and Tenders	\$30.17	\$13.77	\$43.94
Crane and Tower Operators	\$40.43	\$8.63	\$49.06
Crushing Grinding and Polishing Machine Operators	\$26.15	\$3.24	\$29.39
Earth Drillers - Except Oil and Gas	\$23.04	\$3.77	\$26.81
Electrical Power - Line Installer and Repairers	\$48.12	\$15.63	\$63.75
Electricians	\$36.22	\$19.40	\$55.62
Elevator Installers and Repairers	\$74.17	\$38.44	\$112.61
Excavator Operator	\$34.12	\$6.49	\$40.61
Fence Erectors	\$30.90	\$2.18	\$33.08
Flaggers	\$21.39	\$0.86	\$22.25
Floor Layers - Except Carpet/Wood/Hard Tiles	\$29.00	\$8.65	\$37.65
Glaziers	\$39.32	\$19.22	\$58.54
Hazardous Materials Removal Workers	\$24.12	\$1.60	\$25.72
Heating and Air Conditioning and Refrigeration Mechanics and Installers	\$34.33	\$5.29	\$39.62
Heavy and Tractor - Trailer Truck Drivers	\$29.13	\$3.98	\$33.11
Highway Maintenance Workers	\$23.30	\$1.14	\$24.44
Industrial Machinery Mechanics	\$29.97	\$6.74	\$36.71
Industrial Truck and Tractor Operators	\$24.61	\$4.21	\$28.82
Insulation Worker - Mechanical	\$27.35	\$6.05	\$33.40
Light Truck or Delivery Services Drivers	\$26.79	\$5.14	\$31.93
Loading Machine and Dragline Operators	\$29.71	\$4.79	\$34.50
Millwrights	\$26.73	\$24.69	\$51.43
Mobile Heavy Equipment Mechanics - Except Engines	\$30.67	\$3.10	\$33.77
Operating Engineers and Other Equipment Operators	\$39.74	\$3.67	\$43.41
Paving Surfacing and Tamping Equipment Operators	\$30.74	\$10.67	\$41.41
Pile-Driver Operators	\$37.15	\$3.12	\$40.27
Pipe/Steam/Sprinkler Fitter	\$31.88	\$19.30	\$51.18
Pipelayers	\$28.75	\$3.64	\$32.39
Plumbers	\$31.30	\$6.35	\$37.65
Radio Cellular and Tower Equipment Installers	\$34.72	\$5.63	\$40.35
Reinforcing Iron and Rebar Workers	\$32.94	\$25.00	\$57.94
Riggers	\$31.25	\$7.68	\$38.93
Roofers	\$22.93	\$4.35	\$27.28
Sheet Metal Workers	\$27.85	\$6.44	\$34.29
Structural Iron and Steel Workers	\$28.22	\$4.33	\$32.55
Tapers	\$29.16	\$5.64	\$34.80
Telecommunications Equipment Installers and Repairers - Except Line Installers	\$43.59	\$21.08	\$64.67
Telecommunications Line Installers and Repairers	\$28.49	\$5.29	\$33.78
Tile and Marble Setters	\$28.91	\$5.46	\$34.37

Welders are classified as the trade to which welding is incidental (e.g. welding structural steel is Structural Iron and Steel Worker)

Apprentices – The minimum wage rates for registered apprentices are the rates recognized in the sponsorship agreement for registered apprentices working in the pertinent classification.

For any other specific trade on this project not listed above, contact the Bureau of Labor Standards for further clarification.

Title 26 §1310 requires that a clearly legible statement of all fair minimum wage and benefits rates to be paid the several classes of laborers, workers and mechanics employed on the construction on the public work must be kept posted in a prominent and easily accessible place at the site by each contractor and subcontractor subject to sections 1304 to 1313.

Appeal – Any person affected by the determination of these rates may appeal to the Commissioner of Labor by filing a written notice with the Commissioner stating the specific grounds of the objection within ten (10) days from the filing of these rates.

A true copy

Attest: Scott R. Cotnoir

Scott R. Cotnoir
Wage & Hour Director
Bureau of Labor Standards

Supersedes 02-03-2025
Effective 01-10-2026

00 73 46
Wage Determination Schedule

End of Section 00 73 46

SECTION 01 05 00
SUMMARY OF WORK

PART 1: GENERAL

1.01 Description:

- A. The work herein described includes all work by all trades necessary for the schedule of mechanical renovations as described. Mechanical renovation shall include, 1) Demolition of two HB Smith HW Boiler and associated oil fired burners, 2) Removal of one oil pump set and associated piping. Sundries as indicated on plans, and 3) Provide two new LP gas fired HW Boilers, burners, expansion storage tank, associated piping, and associated power and integrated into existing Trane Boiler/burner Management control system.

Work includes the furnishing of materials and all construction equipment required for the completion of the project with minimal disturbance to the operation of the facility employees and general public.

- B. The building is presently occupied and used by the general public, thus extreme care is to be taken to insure safety at all times during both the demolition and installation phases. This includes, but not limited to, installation of proper barricades and close supervision and scheduling of construction activities by Contractor and Owner.

PART 3: EXECUTION

- 3.01 After the contractor has been directed to proceed with the work from the Engineer, in writing or verbally, temporary services shall be completed, before any demolition occurs.
- 3.02 No major demolition will take place prior to the Owner's approval and major equipment and materials are in shipment or are available.

END OF SECTION

SECTION 01 10 00
ALTERNATES & ALLOWANCES

PART 1: GENERAL

1.01 Description: Additions to, or Deductions from the Base Bid.

- A. The Contractor shall state in his Proposal Bid the amount to be Added to the Base Bid Amount for the following Add Alternates as indicated in the Bid Document Specifications and/or as indicated on plan(s).

Work will include materials and labor involved in the Alternates for the furnishing of materials and all construction equipment required for the completion of such Add or Deduction.

PART 2: Alternates

- A. ADD Alternate #1: Boiler Plant Data Manager for remote Boiler access and control.

PART 3: Allowances

NONE

END OF SECTION

SECTION 01 50 00
TEMPORARY SERVICES

PART 1: GENERAL

1.01 Description:

- A. The work of temporary services shall be the responsibility of the General Contractor.

PART 2: PRODUCTS AND EXECUTION

2.01 Shoring and Scaffolding

- A. Provide necessary scaffolding, mobile lift, etc. to convey materials and workers safely. All temporary equipment for such purpose shall shored and supported properly.

2.02 Storage Shed

- A. Provide weather tight storage facilities for the storage of material which could be damaged by inclement weather.

2.03 Temporary ramps, walkways

- A. Contractor shall be responsible to provide and maintain means of egress and access to existing buildings, walkways, etc., as required for execution of the work. Such requirements shall comply with all Federal, State and local laws.
- B. Dust Control: Not required, however, all areas of construction shall be left clean and all debris contained and removed from site on a daily basis.

2.04 Public Safety And Protection

- A. During all stages of construction protect all areas affected by the work against hazards of any kind that may affect property or life. Provide and install necessary signage, barricade, fencing, etc. to deter unauthorized entry and warn of hazards.

2.05 Removal of Temporary Services

- A. The contractor shall remove all temporary services at the completion of the project, of which all materials shall be the property of the contractor.

END OF SECTION

SECTION 01 70 00
PROJECT CLOSEOUT

PART 1: GENERAL

1.01 Description:

- A. The work of this section shall be the responsibility of the General Contractor.
 - 1. Site area and area parking lot shall be completely clean of all debris and materials.
 - 2. Four complete sets of maintenance and instruction manuals shall be presented to the Owner, along with one (1) year warranty of all parts and labor for the entire project.
- B. The Owner and Engineer shall establish and agree, after final site inspection, that the work is substantially complete and a project completion date will be determined. This date shall reference the one (1) year warranty period.

END OF SECTION

SECTION 02 05 00

DEMOLITION

PART 1. GENERAL

1.01 General

- A. The Contractor shall coordinate his work with the all trades as required for the reasonable progression of the work. Removal or discontinuance of existing items shall be done by qualified persons
- B. The Contractor shall be responsible for keeping the unaltered portions of the buildings reasonably free from dust and debris. The Contractor shall take reasonable precautions to protect all involved areas.

PART2.PRODUCTS

2.01 Materials

- A. Materials used to replace, patch or repair existing -exposed work shall match or be compatible with existing adjacent surfaces when finished, or be redone in accordance with the Finish Schedule on the Drawings and as specified. All such finishes shall be to the approval of the Architect.
- B. New construction and new items shall be as specified in the applicable Sections of these Specifications.

2.02 Items To Be Delivered to the Owner

- A. All desired salvage items such as plumbing, electrical and misc. fixtures, doors and hardware, etc. shall be returned to the Owner. If there is a question about any particular item(s), the Contractor shall determine from the Owner whether it is to be saved and returned to the Owner or disposed of by the Contractor.

PART 3. EXECUTION

3.01 Removing Existing Work

- A. The removal of all portions of the structure to be removed shall be done with utmost care. Use tools and methods that will not transfer any heavy shocks to the remaining portions of the building. All possible care shall be taken to avoid excessive vibration and other disturbances to the structure. Repair any

damage caused by removal of any item. Such repair shall be at the expense of the Contractor doing the work.

- B. Do not allow debris to accumulate. Sprinkle debris during handling and loading.
- C. When removing materials and making openings in walls, or other portions of the buildings. Take all necessary precautions and use whatever protection devices, shoring, guard rails and similar devices as may be required to assure that the remaining and adjacent portions of the existing work which is to remain is substantially supported and/or not loaded beyond safe limits.
- D. Materials indicated on the Drawings to be removed shall be taken down in a workmanlike manner so as not to damage the existing materials noted to remain. Any items noted to remain which are damaged during the course of construction, shall be replaced at no cost to the Owner.
- E. Where new work joins or abuts existing work, do cutting carefully, accurately, and true to lines indicated.

3.02 Disposal of Debris

- A. Remove non-salvageable refuse and debris from the site. It is the responsibility of the General Contractor and his sub-contractors to make all required arrangements for legal disposal of such materials in connection with their respective interests in the work.
- B. Do not allow debris of any nature to accumulate to the detriment of the work or to the good appearance of the facility. Debris shall be gathered and disposed of at frequent, regular intervals as required by the work. Disposal shall occur at least every week, regardless of the amount of accumulation.

3.03 Cleaning Up

- A. Rubbish, debris, waste materials, and salvaged materials from and about the building; and tools, scaffolds, apparatus, and appliances used shall be removed by the Contractor. The premises shall be left in clean condition and made ready for the work as described under the applicable Sections of these Specifications and as shown on the Drawings.

--END OF SECTION--

SECTION 03 30 00
CAST IN PLACE CONCRETE

PART 1. GENERAL

1.01 Related Work Specified Elsewhere

A. Section : none

1.02 Reference

A. Work in general shall be as recommended by the latest editions of the ACI Manual of Concrete Practice.

PART 2. PRODUCTS

2.01 Concrete Mix Materials

- A. Cement - Type 1, 11, or III Portland Cement by Dragon, St. Lawrence, Ciment Quebec, or Lehigh conforming to ASTM C- 1 50.
- B. Air entraining admixture for any exterior slabs - Darex, Sika Air, or equal conforming to ASTM C-260.
- C. Aggregate - To conform to ASTM C-33 of maximum sizes specified in 3.1 Proportioning of the Section.

Variation of required aggregate gradation will be permitted only upon the written guaranty of the strengths of the concrete determined in accordance with cylinder tests specified herein. Such guaranty shall be by the concrete supplier.

2.02 Reinforcement

- A. Reinforcing steel - 60,000 psi new biilit steel, intermediate grade conforming to ASTM A-61 5and ASTM A-305 deformations.
- B. Welded wire mesh for slabs-6x6-W I.4 x W I.4 WWF, conforming to ASTM A-185.

2.03 Joints and Imbedded Items

- A. Metal accessories, including chairs, bolsters, spacers, ties, and other items necessary for properly tying, supporting and spacing reinforcing - plastic or hot dip galvanized after fabrication.

- B. Form Ties - Snap-off type by Richmond, Jahn, or Hohmann & Barnard.
- C. Non-shrink grout for column bases and bearing plates - Vibmfoil by Grace, Ferrolith G by Sonneborn or Embeco Premixed by Master Builders.
- D. Perimeter slab isolation strip - asphalt impregnated fiber board for exterior use and closed cell foam insulation for interior use. See Drawings for Specific thickness and applications.
- E. Floor Slab Insulation - 2" thick , tongue & groove, rigid, extruded polystyrene foam board equal to Foamular by UC Industries, or Styrofoam SM by Dow.
- F. Underslab Vapor Barrier - Multi-ply reinforced sheeting specifically designed for underslab application. "Moistop" by Fortifiber, Griffolyn T-65, or equal

2.04 Form Materials

- A. Exposed surfaces - Plywood, Steel, Plyform, or Hardboard.

PART 3: EXECUTION

3.01 Proportioning:

- A. The following concrete strength is based upon 28 day strength, and 6% to 7% air mix. Potable water only.

Footings & Foundations:	3,000 psi strength, 1" aggregate, 3" - 5" slump
Slabs	: 3,500 psi strength, 3/4" aggregate, 3" - 5" slump
Stair Pan	: 3,500 psi strength, 3/4" aggregate, 2" - 4" slump
Other concrete	: 3000 psi strength, 1" aggregate, 3" - 5" slump

3.02 Mixing and Batching

- A. General - Concrete shall be Ready Mixed and shall be batched and mixed in accordance with the "Specifications for Ready Mixed Concrete", ASTM C-941.
 - A. Retempering: Add water only to the extent that the permissible slump and the maximum W/C is not exceeded.

3.03 Formwork

- A. General
 - 1. Design formwork in accordance with 'Recommended Practice for Concrete Formwork', ACI 347.

2. Construct forms so that concrete surfaces will conform to the tolerances of Section 203.1 ACI 347 and for wind loads as specified by local building codes.
3. The maximum loaded deflection of faces exposed to view shall be 1/240 of the span between structural supports.
4. Coat forms with approved non-staining form oil or sealer and clean all form surfaces before reuse.
5. Form all bondouts, bevels and misc. shapes as shown of the drawings to be accurate and neat.

3.04 Workmanship a Reinforcing

A.

1. Splicing of bars, cover tolerances, and details not covered herein shall be in accordance with the recommendations of "Manual of Standard Practice for Detailing Reinforced Concrete Structures" ACI 315.
2. Do not bend reinforcement partially embedded in hardened concrete.

B. Slab Control Joints

1. Joints in slabs shall be where indicated on the Drawings and, and unless otherwise noted, shall be saw cut. Start cutting as soon as the concrete has hardened sufficiently to prevent aggregates being dislodged by the saw. Complete cutting before shrinkage stresses have developed sufficiently to induce cracking.

C. Slab Insulation

1. Place tongue and groove rigid insulation boards tightly together in a flat plane. Insulation shall be entirely in contact with gravel base without bridging any shallows or gaps.

D. Conveying

1. Convey concrete from mixer to place of deposit as rapidly as practical without separation and/or loss of ingredients.

E. Depositing

1. General - Deposit concrete continuously, or in layers so that no seams or planes of weakness will be formed. Discard concrete which has partially hardened or has been contaminated by foreign materials. Remove temporary spreaders in forms when concrete is at elevation where they are unnecessary. Permanent metal or concrete spreaders may be left in forms if approved by the Architect.
2. Place concrete as nearly as practical in its final position to avoid segregation due to rehandling or flowing. Work concrete around reinforcement, around embedded items, and in corners of forms, eliminating all air or stone pockets.

F. Weather Conditions

1. Protection - Unless adequate protection is provided and/or approval is obtained from the Architect. Concrete shall not be placed during rain, sleet, or snow. Rain water shall not be allowed to damage the surface finish.
2. Placing Temperature
 - (a) Cold weather - When the mean daily temperature falls below 40 Deg. F., the minimum temperature of concrete as placed shall be 50 Deg. F.
 - (b) Hot weather - Concrete deposited in hot weather shall have a placing temperature which will not cause difficulty from loss of slump, flash set, or cold joints, or in any case be a maximum of 85 Deg. F.

G. Curing

1. General - Protect freshly deposited concrete from premature drying and excessive hot or cold temperatures. Maintain minimum moisture loss at a relatively constant temperature for the period of time necessary for hydration of the cement and proper hardening of the concrete.

H. Surface Repairs

1. Remove honeycombed and other defective concrete down to sound concrete. Dampen area to be patched and area 6 inches around it to prevent absorption of water from patching mortar. Make patching mixture of sand and cement used in concrete. Mix not more than 2 1/2 to 1. Use white cement as necessary to match color of existing concrete as determined by trial patches in

unexposed areas. Areas concealed in the finished work may be filled with trowel-on asphalt compound if the blemish is minor.

I. Finishing

1. Interior slabs - Finish first by consolidating with a pointer float. Hand float in inaccessible locations. Recheck trueness of surface with a 10 foot straight edge applied at not less than two different angles. Cut down high spots and fill low spots and retrowel before proceeding. Power trowel to smooth surface relatively free of defects. Do additional trowelings by hand after the surface hardens sufficiently. Do final troweling when a ringing sound is produced as the trowel is moved over the surface. The surface shall be free of trowel marks, uniform in texture and appearance and plane to within 3/16 inches in ten (10) feet, as determined by a ten (10) foot straight edge placed on the slab in any direction. Correct defects of sufficient magnitude to show through scheduled floor covering materials.
2. Exposed Exterior Slabs - Wood float to a tolerance of 1/4 inches in five (5) feet. Broom finish and tool joints and edges
3. Exposed Exterior Formed Surfaces - Patch, if necessary, as specified above immediately upon removal of forms. Complete rubbing within 48 hours. Wet surfaces and rub with a carborundum brick or other abrasive until a uniform color and texture is produced. Use no cement grout or slush other than the cement paste drawn from the green concrete itself by the rubbing process.
4. Concealed Exterior Formed Surfaces - Knock off protrusions. Fill tie holes and honeycombed areas.

3.05 Acceptance of Concrete Work

- A. The work will be accepted or rejected by the Architect or his authorized representative as the work is produced.

3.06 Tests

- A. Cylinders and slump tests may be taken by the Owner and /or Engineer. Testing shall be the cost of the Owner. *Retesting* due to initial test failures shall be at the contractors' expense.

END OF SECTION

SECTION 04100

MORTAR

PART 1. GENERAL

1.01 Related Work Specified Elsewhere

- A. Section 04200-Unit Masonry-
- B. Section 03300-Cast in Place Concrete-

1.02 Submittals

- A. Submit complete set of mortar samples for color selection to the Architect prior to furnishing any materials to the site.

PART 2. PRODUCTS

2.01 Materials

- A. Masonry cement for brick veneer - Factory mixed colored cement equal to Flamingo by Riverton Corp., Medusa Customi Color, or Brixment of color selected by the Engineer.
- B. Sand - Clean, hard, sharp and free from deleterious materials. Materials must conform to ASTM C-144.
- C. Water - Potable.

PART 3. EXECUTION

3.01 Mixes

- A. For Brick Veneer: 1 part masonry cement, 3 parts damp, loose sand by volume. Mortar shall conform to Type 14 as required by ASTM C-270.

3.02 Preparation

- A. Mix sand and mortar cement dry. Add water to bring mortar to proper consistency for use. Keep mixed mortar tempered on the boards so that it will contain at all times as much water as it will carry. Use no mortar that has stood more than one (1) hour. Re-tempering in the box will not be permitted.
- B. In cold weather, sand and water shall be heated sufficiently to maintain the temperature of mortar when used to above 50 degrees F.
- C. No additives, anti-freeze mixtures or admixtures will be allowed in the mortar.

-END OF SECTION-

SECTION 22 00 00
PLUMBING SYSTEMS

Part I - GENERAL

1.01 DESCRIPTION: Provide and furnish all necessary labor and materials in connection with a complete plumbing system as described in this section and as shown on drawings. Construction Coordination and Collaborate: This Contractor shall coordinate and collaborate all efforts of installation with all other trades during the construction phase of this project. Time will be allowed for a coordination meeting with all other involved trades during the early stage of construction installation.

1.01.1 Commissioning: Time shall be allotted for commissioning of systems, equipment, devices, etc.,. Plumbing Contractor, as well as all involved Sub-Contractors, shall collaborate with Commissioning Agency.

1.02 WORK SPECIFIED IN THIS SECTION:

- A. Plumbing fixtures and trim.
- B. Sanitary waste, vent, storm drain systems.
- C. Hot and cold water system.
- D. Piping insulation.
- E. Hangers, supports, sleeves, escutcheons, etc.
- F. Pipe identification.
- G. Testing of systems.
- H. Domestic Hot Water sundries, and piping.

1.03 WORK SPECIFIED ELSEWHERE

- A. Section 07 92 00: Sealants
- B. Section 09 90 00: Painting.
- C. Section 23 00 00: Heating & Ventilation
- D. Section 26 00 00: Electrical

1.04 REFERENCES:

Unless otherwise specified or indicated, materials and workmanship shall conform with the latest edition of the following standards and specifications:

- 1. American National Standards Institute (ANSI).
- 2. Underwriters Laboratories, Inc. (U.L.).
- 3. American Society for Testing and Materials (ASTM).
- 4. National Fire Protection Association (NFPA).
- 5. State of Maine Plumbing Code

1.05 SUBMITTALS:

- A. Submit shop drawings in accordance with the requirements of the General Conditions. Submittals shall include manufacturer's specifications and installation instructions on all specified items.
- B. Provide submittals on the following items:
 - 1. Plumbing fixtures and associated faucets & trim
 - 2. Domestic Hot & Cold Water Piping & Specialties
 - 3. Insulation
 - 4. Valves and Piping
 - 5. Miscellaneous Equipment
- C. Provide warranties and guarantees for standard manufacturer's products specified in the section.

Part II - PRODUCTS

2.01 DHW MAKER : DHWH-1

Provide and install (1) - 119 gallon capacity commercial type domestic hot water maker as shown on plans. Manufacture shall be Viessmann, model #Vitocell-V 300 or approved equal. Unit shall be completely piped to boiler hot water system. Refer to domestic piping part of section 15600 heat piping. Recovery rate; DHW, 6.1 gpm, increase temperature from 50 to 140°F, HW inlet temperature 194°F, flow rate 28.6 gpm, 276 MBH. Standby loss 9.2 MBH/24 hr. Vertical storage tank, high grade stainless steel SA- 240-316 Ti. All water connections; 1-1/4" MPT, dimensions: 36" diameter, overall height 72".

2.02 HOT WATER CIRCULATING PUMPS: CP-DHWR

CP-DHWR; Provide and install one Domestic HW Re-circulating pump, 44watts, 4830 RPM, 5.0 GPM, 15' Head, stainless steel body and impeller, 115v - volts, 60 HZ 1 phase, Taco # 0015e3-ECM 1" or approved equal. Pump shall be manufactured by B & G, Taco, or Amtrol as Acceptable pump manufactures and suitable for portable water.

2.03 DHW MIXING STATIONS:

Mechanical Room: Wall mounted HW Mixing Station shall be 1-1/4", self regulating, adjustable temperature range 100 to 140 F, bronze body, stainless steel stem and trim, 125 psi, control temperature performance; +/- 3 F. exposed type Symmons Series #7-500A-ASBVW or approved equal, with check valves, removable cartridge & strainer, chrome finish, shut off, dial thermometer. Mount mixing valve 48" AFF. Fail safe to DCW. 1" inlets, 1-1/4" outlet.

2.04 COMPRESSION TANK:

A. DHW Heating System (ET-DHW)

Compression tank shall be installed per manufacturer's instructions complete with all necessary shut off cocks and sundries. Tank shall be manufactured by Taco, PAX series, model #PAX-130 or approved equal. Tank shall have a total volume capacity of 34.0 gallons, with acceptance volume of 19.0 gallons. Dimensions: 16" dia. x 55"h. Extrol, Amtrol as acceptable tank manufactures and suitable for portable water.

2.05 MISCELLANEOUS EQUIPMENT AND FITTINGS:

A. Valves.

1. All valves shall be suitable size and type and shall be Crane, Jenkins or approved equal. Where required in copper piping, valves shall be bronze except those which are chromium plated and they shall be brass. All valves shall be for not less than 125 pound working pressure.

Isolation valves shall be provided and installed for all DCW, DHW, and DHWR main branch lines that serve plumbing fixtures and sundries. All fixtures shall have individual service stops as stated in paragraph 2.01.G.

2. Shut-off valves shall be bronze, bodied ball valves with stainless steel ball and stem, Apollo series 70-100 or equal.
3. Drain cocks shall be 1/2 inch bronze globe valves with 3/4 inch hose end, Jenkins figure 113 with figure 658 cap and chain.
4. Stop and Waste Nibco or equal.
5. Check valves shall be bronze swing type, Jenkins figure 1222, Fairbanks figure 0681, Hammond figure IB 943 or Nibco S-413Y.
6. Locate valves for easy access and operation, where concealed, provide access doors. Do not locate valves with stem below horizontal.
7. Shock absorbers shall be Amtrol or Precision Plumbing Products, Inc. or equal. Water hammer arrestors installed at each branch manifold for hot and cold water in pipe chases and where shown on Drawings. Provide with gate valve for service. All branch lines being served with cold and hot water service shall be provided with such device. Amtrol # 536
8. Floor Clean Outs: Floor clean outs shall be Zurn series Z-1404 with satin finish bronze top recessed for tile, where applicable.
9. DCW Pressure Reducing Station: Provide and install (1) 2-1/2" pressure reducing valve with wye strainer and station components as detailed. PRV shall be Watts model #223S or approved equal. PRV shall be bronze body construction with stainless steel components suitable for initial pressure of 300 lbs water pressure and domestic water service. Factory pressure setting of 50 lbs, adjustable range from 25 up to 75 psi.. 160 degree F temperature.

2.06 WATER PIPING AND FITTING:

- A. Copper tubing (type L) and fittings shall be used for all water inside of buildings. Fittings shall be cast-brass or wrought copper suitable for sweat connections for use with hard-drawn tubing.
- B. Branches and run-outs. Piping shall be installed as indicated on the Drawings. Pipe shall be cut accurately to measurements established at the building by the Contractor and shall be worked into place without springing or forcing. Care shall be taken not to weaken the structural portions of the building. Piping shall be run parallel with the lines of the building unless otherwise shown or noted on the Drawings. Branch pipe from service lines may be taken off top or bottom of main, using such cross-over fittings as may be required by

structural or installation conditions. Service pipe, valves and fittings shall be kept a sufficient distance from other work and other services to permit not less than 2" between finished covering and other work and not less than 2" between finished covering on the different services. Changes in pipe sizes shall be made with reduced fittings.

- C. Expansion and contraction of piping: Allowance shall be made throughout for expansion and contraction. Horizontal runs over 50 feet in length shall be anchored to the wall or to the supporting construction about midway on the run to force expansion, evenly divided toward the ends.
- D. Sweated tubing joints: Tubing shall be cut square and burrs shall be removed. Both inside of fittings and outside of tubing shall be well cleaned before sweating. Care shall be taken to prevent annealing of fittings and hard drawn tubing when making connections. Installation shall be made by competent workmen in accordance with manufacturer's recommendations. Mitering of joints for elbows and notching of straight runs of pipe for tees will not be permitted. Joints for interior soldered fittings shall be made with a non-corrosive paste flux and solid string or wire solder composed of 95 percent tin and 5 percent antimony. Cored solder or 50 percent tin and 50 percent antimony will not be permitted.
- E. Dissimilar piping materials: Where there is a junction of two different metallic piping materials, and where electrolysis may occur, provide dielectric unions or companion flanges with non conductive gaskets.

2.07 ESCUTCHEONS:

- A. Escutcheons shall be installed around all exposed pipe passing through a finished floor, wall, or ceiling. Escutcheons shall be heavy cast brass, chromium plated, adjustable, and shall be of sufficient outside diameter to cover sleeve opening and shall fit snugly around pipe, and lock with set screw.

2.08 TRAPS:

- A. All traps connected to the sanitary system shall be vented as shown on the Drawings and as required by the local and state plumbing codes.
- B. Type of fixture traps shall be cast brass, for concealed, and cast brass chrome plated for accessible, water-seal, self-cleaning "P" trap. Each trap shall have an accessible cleanout of ample size, protected by the water seal.

2.09 EXPANSION PROVISION:

- A. Where branches are taken off hot and cold water risers, the tee in the riser shall be located with adequate clearance from the structure or other piping to allow for expansion of the riser without strain on the branch piping.
- B. Branches shall be taken off the risers with at least three fittings to form an adequate swing joint.
- C. For each hot water riser suitable swing shall be provided at top and bottom connections from mains to risers to allow for expansion in both main and riser.
- D. Where soldered or brazed joints are used for the piping systems, proper swing joints as described above for branches from risers shall be provided, or adequate length loops shall be installed to prevent undue strain on the tubing or joints to expansion and contraction.

- E. Main domestic hot water and return pipe lines that run more than fifty shall be provide with means of expansion by either pipe expansion loop or U type flex connector made of bronze braided corrugated high tensile material by KeFlex or approved manufacture.

2.10 HANGERS AND SUPPORTS:

- A. Provide all pipe hangers and fixture supports, and be responsible for proper and permanent location.
- B. All piping shall be rigidly supported from the building structure by means of approved hangers and supports. Horizontal piping shall be hung with adjustable wrought iron or malleable iron pipe hangers, unless otherwise specified, spaced as follows:
 - 1. Cast Iron or PVC pipe: 6 feet at joints.
 - 2. Copper tubing: 6 feet on center.
 - 3. Steel Piping, sch. 40: $\frac{3}{4}$ " and less 8 ft. on center, 1" and larger 12 ft. on center
- C. Vertical stacks of soil, waste, vent and conductor piping shall have friction clamps on each floor. Vertical supply risers shall be supported at each floor by friction clamps or inserting around the supply pipe, a coupling which shall rest on pipe sleeve. Soil, waste and conductor stacks shall be firmly supported at their base, either by a suitable hanger placed on the horizontal line near the riser, or by a base fitting set on a pedestal or foundation carried down to a firm bearing.
- D. Hangers for piping, sizes 4 inches and smaller, shall be Carpenter-Patterson No. 1A Bank Type, Grinnell Co., Calco Steel Products Co., or equal, black steel with hanger rods with machine threads. For un-insulated, copper tubing, the hangers shall be copperized. Hanger for use on insulated service lines shall be sized to allow for insulation thickness, except that branch runouts to individual fixtures and water piping within concealed pipe chases shall be supported with split ring hangers attached directly to tubing.
- E. Chain, strap, perforated bar, or wire hangers will not be approved. Approved gang hangers may be used in lieu of separate hangers on pipes running parallel to each other and close together. Where used for copper tubing, the gang hangers shall have copper saddles or shall be sheet-lead coated.
- F. All fixtures and equipment shall be supported and fastened in a satisfactory manner. Where wall-hung fixtures are secured to partitions, they shall be fastened with 1/4 inch through bolts provided with nuts, washers and plates at back, except where chair carriers are specified. Bolt heads and nuts shall be hexagon and exposed bolts, nuts, washers and screws shall be chromium-plated brass. Where secured to concrete or masonry walls, they shall be fastened with brass bolts or machine screws in lead sleeve type expansion shields and shall extend at least 3 inches into solid concrete or masonry work. Water closets shall be installed with double gasket seals between floor and closet.

2.11 SLEEVES:

- A. All sleeves shall be one-piece Schedule 40 steel pipe. The sleeves shall be fitted securely to prevent slipping or moving.
- B. All piping through masonry walls, beams and partitions shall be sleeved. All sleeves shall finish flush with the finish line.
- C. Space between sleeves and piping shall be sealed watertight and/or gastight as described below:
 - 1. Un-insulated metal piping shall be sealed watertight and/or gastight by packing space between pipe and sleeve with approved packing. Special care shall be taken not to drive lead below top of sleeve. Mechanical seals may be used.
 - 2. Insulated piping and plastic piping shall be sealed watertight and/or gastight by packing space between pipe sleeve and insulation with an approved packing. Fill the remaining space with approved waterproof resilient adhesive sealant.
- D. Sleeves shall be of size to allow for continuous full thickness of pipe insulation through sleeve.
- E. Provide waterproof sleeve or casting on each pipe entering or leaving building through foundation walls and tank pits, or wet wells. Seal space between each pipe and its waterproof sleeve. Each end of sleeve shall be sealed as described above. Each pipe shall be concentric with sleeve. Sleeves shall be waterproof type with welded or cast flange and of size and length to suit pipe and wall thickness. Sleeves shall be all galvanized after welding.

2.12 INSULATION:

- A. Provide thermal insulation on cold, hot, and return water. Insulation shall be continuous through supports.
- B. Insulation shall be omitted on branch runouts designated as chromeplated, except as otherwise specified.
- C. Pipe covering shall be Armaflex #AP-2000 or equal, 1/2" thickness for all hot and cold pipe sizes 3/4" and less. 3/4" thick for 1" to 1-1/4", and 1" thick for 1-1/2" and larger.
- D. Fittings for hot water and hot water recirculating piping shall be covered with Armaflex fitted of same thickness and finish as adjacent pipe covering.
- E. Valves, flanges and fittings for cold water and hot water piping shall be covered with mitered sections of Armaflex. Insulation shall be of same thickness and finish as adjacent pipe covering.
- F. The insulation lap shall be sealed with an externally applied sealer.
- G. Storm Drain; provide 1/2" thick Armaflex # AP-2000 closed cell insulation for all storm drain piping, fittings, and roof drains. Install per manufacture's recommended procedures.

2.13 PIPE IDENTIFICATION:

- A. Provide color coded pipe identification markers on all piping in the building installed under this Section. Pipe markers shall be semi-rigid plastic identification markers equal to "Set Mark" Type "SNA" by Seton Nameplate Corporation or equal.
- B. Provide an arrow marker with each pipe content marker to indicate the direction of flow. If flow can be in either direction, use a double headed arrow marker.
- C. Piping shall be labeled at 20 foot intervals, adjacent to each valve, on each riser. This work shall be done after architectural finish painting where such is required on the pipes.
- D. The following color coding shall be used with names in black letters on backgrounds indicated:

<u>Service</u>	<u>Legend</u>	<u>Background Color</u>
Domestic CW	Domestic C.W.	Green
Domestic HW	Domestic H.W.	Green
Domestic HWR	Domestic H.W.R.	Green
Storm Drain	Storm Drain	Green

- E. In general, 3/4 inch high legend shall be used for pipe lines.
- F. All markers to be OSHA approved.

2.14 VALVE TAGS AND CHARTS:

- A. All valves on pipes of every description have neat circular 1 1/2 inch brass valve tag attached with brass chain to each valve stem. Stamp on these valve tags in white letters as large as practical the number of the valve and its service, such as "H.W.", "C.W." for hot water and cold water respectively. The number of each service shall be consecutive.
- B. Valve numbers shall correspond to numbers indicated for valves on the record Drawings and on two printed detailed lists. These printed lists shall state the numbers and location, including the painted door room number, the location in the room (with location dimensions if concealed), of each valve and the fixture or group of fixtures which it controls, and other necessary information, such as requiring the opening or closing of another valve or valves, when any one valve is to be opened or closed.
- C. The printed lists shall be prepared in a form to meet the approval of the Architect and Owners. Record lists shall be included as part of O & M manuals.

Part III - EXECUTION

3.01 GENERAL:

- A. The work shall be executed in compliance with the latest edition of the Maine State Plumbing and other applicable Building Codes and all local regulations, etc., applicable to work in this section.

Permits: Obtain and pay for all required permits, licenses, etc.. In case of conflict between the Contract Documents and a governing code or ordinance, the more stringent standard shall apply.

- B. Unless otherwise specified or indicated, materials and workmanship shall conform with the latest edition of the following standards and specifications:

1. American National Standards Institute (ANSI).
2. Underwriters Laboratories, Inc. (U.L.).
3. American Society for Testing and Materials (ASTM).
4. National Fire Protection Association (NFPA).

- C. All work shown on Drawings is diagrammatic. It is not intended to specify or to show every offset, fitting, and component. However, it is the intent of these Specifications and Drawings accompanying same that all required components and materials shall be furnished and installed under this Section, whether or not indicated or specified, in such a manner as to make the entire installation fully complete, operable and maintainable in all respects to satisfaction of Owner.

- D. Refer to appropriate sections for specifications on cutting and sealing openings for piping and other equipment penetrating walls, floors, and roofs. Building Structure Penetrations; General Contractor to provide cutting & finish patching of all building structure penetrations involving removals and new installations of system items, devices, etc. associated with this trade. This contractor shall provide necessary and proper fire stop(s), water seal or weather stop(s), etc. associated with system device penetration. This trade shall coordinate all system component penetrations through building structure(s) with General Contractor and Owner.

- E. Refer to Section 02072 and the General Conditions for provisions governing work in existing buildings, including removal of existing equipment and advance notice of service interruption.

3.02 TESTING – ADJUSTING & COMMISSIONING:

- A. Due to the extent of the work, testing shall be done in sections before any work is covered in and in order that the various parts of the work can go ahead without delay.
- B. Sanitary & Storm drain piping: Before the installation of fixtures, close all openings of the system and fill all lines with water to roof and allow to stand until a thorough inspection has been made. No appreciable drop should be noticed within a 60 minute period, as witnessed by Architect or Owner.

- C. Water piping shall be tested to a hydrostatic pressure test of 125 pounds per square inch and it shall hold tight for a period of 2 hours.
- D. All piping shall then be blown out and made clean and free from scale, water or sludge.
- E. If inspection or test show defects, such defective work or materials shall be replaced and inspection and test repeated.
- F. The Inspector or Plumbers shall be notified sufficiently in advance of all tests in order that he may observe them.
- G. All tests to be witnessed by Architect or his authorized agent, or Owner. Contractor shall provide an allowance for Commissioning before project completion. An allowance of 4 hours minimum of onsite time for commissioning shall be allotted.
- H. All operating equipment installed under this Section shall be placed in operation and shall function continuously in an operating test for a period of two weeks.
- I. Carry out operating test prior to scheduling the project final inspection and after completion of all installation and running adjustments, balancing and any other work required to place the equipment in complete operating condition to meet all requirements under this specification. During this running test period the Contractor shall deliver to the Architect two complete sets of operating, service and replacement data for all equipment which will require operating maintenance or replacement, and one copy of this literature shall be available during the instruction of operating personnel. During all working hours of the operating test

Contractor instruction personnel shall be available for and provide thorough and detailed training to operating and maintenance personnel in operation, maintenance, and adjustment of all equipment installed.

3.03 COMPLETION:

- A. Valve tags and charts: All valves shall have tags noting service and number which shall be noted on record Drawings and Charts.
- B. Provide properly executed certificate of inspection from authorities having jurisdiction.
- C. Instruct such persons as the Owner designates in the proper operation and maintenance of the systems and their parts. Submit to the Architect a letter naming the person or persons so instructed and the dates of such instruction.
- D. Prepare and deliver four sets of complete literature showing operating, service and replacement data for all equipment which will require periodic maintenance or replacement.
- F. Documentation : Proper and adequate documentation must be provided, this will include:
 - a. Accurate as-built drawings and sequences submitted in hardcopy and digital format updated via a standard 2026 Computer Aided Drafting (CAD) program)
 - b. Owner's manuals including technical spec sheets
 - c. Operator manuals

END OF SECTION

DIVISION 23 00 00

HEATING, VENTILATING, AND AIR CONDITIONING

PART ONE: GENERAL

1.01 Scope

- A. The work covered by this section of the specification shall include all equipment, materials, labor, transportation, permits, inspections and incidentals required to complete all operations in connections with the installation of a heating and ventilation system as shown on the drawings and/or as herein specified. The Contractor shall assume complete responsibility for receiving, storing, handling, and installing all equipment. All work shall be executed to conform to all required local, state, and federal laws, regulations, etc., applicable to work in this section.
- B. The general provisions of the contract, including the General Conditions, Contract Conditions, and Drawings apply to work specified in this section.
- C. Construction Phasing: This project shall be constructed in one continuous phase.
- D. Commissioning: Time shall be allotted for project commissioning of systems, equipment, devices, etc., Mechanical Contractor, as well as all involved Sub-Contractors, shall collaborate and coordinate with Owner's Commissioning Agency.

1.02 WORK SPECIFIED IN THIS SECTION

- A. HW Boilers & Burners
- B. HW Supply & Return Piping
- C. Automatic Temperature Controls
- D. Insulation
- E. Ductwork Flue/Breaching
- F. LP Gas Piping & UG Tank
- G. Demolition

1.03 WORK SPECIFIED ELSEWHERE

- A. Section 09 90 00: Sealants.
- B. Section 09 90 00: Painting.
- C. Section 22 00 00: Plumbing
- D. Section 26 00 00: Electrical Systems

1.04 REFERENCE:

American Society for Testing and Materials (ASTM)
Underwriters' Laboratories, Inc. (UL)
Air Moving and Conditioning Assoc. (AMCA)
American Society of Heating, Refrigerating, and Air
Conditioning Engineers (ASHRAE)
American Society of Mechanical Engineers (ASME)

National Electrical Manufacturers Association Institute of Electrical and Electronics Engineers (IEEE)
American National Standards Institute (AWWA)
Local and State Fire Code
The Board of Fire Underwriters
Local and State Plumbing Codes
American Welding Society
Building Officials Code Administration (BOCA)
Office of Safety and Health Administration (OSHA)

1.05 SUBMITTALS

- A. All items shall be submitted for approval to the Owner as mentioned in the General Conditions, apply are as follows:
1. All equipment, including fan curves data.
 2. Piping specialties (thermometers, gauges, valves, flexible connections, strainers, etc.)
 3. Hot water specialties
 4. Pipe, fittings and hangers
 5. Grills, diffusers and registers
 6. Duct accessories, (volume damper, turning vanes, access doors, etc.)
 7. Thermal insulation for all systems
 8. Piping, valve and equipment identification
 9. Schematic control diagrams and control schemes
 10. Contractor's duct fabrication and piping standards
 11. Shop drawings for ductwork and piping

PART TWO: PRODUCTS

2.01 BOILER / BURNER PACKAGE: BLR #1 & 2

- A. Provide HW boiler(s) with burner(s) as shown on plans. Viessmann Vitocrossal 200 series, model C12 500 approved as equal. LP gas fired; Gross input 500 MBH, Net output 490 MBH, CSA thermal/combustion efficiency of 97.0%. Two Boiler(s)/burner(s) packaged assembly shall be started up by approved factory representative.

Standard Equipment:

- * Pre-piped / pre-wired
- * Insulated metal jacket enclosure
- * Boiler / Integrated Burner pre-mounted on factory steel frame
- * Manufacture's automated 4" isolation valves.
- * Individual Control Assembly
- * Digital Cascading Boiler Control Panel
- * Manual reset, Hi-Limit control
- * ASME and National Certified
- * 4" flue/vent pipe connection
- * Pressure Relief valve
- * Communication Building Management System Gateway
- * Boiler Supply Connection Kit
- * Manufacture's factory start-up

BURNER: Manufactured by Viessmann, integrated in boiler, electric ignition, with maximum firing rate of 5.5 gph, LP fuel. Boiler / Burner control circuit power by 120 volt, 60hz, 1

phase, FLA = 4.3 amps per assembled package. Condensate flow rate 5.0 gph. Provide condensate neutralizing drain kit with pumps, and combination 4" dia. separate vent/flue for each boiler. Individual combustion air filter box with air filters, 4". Burner shall be started by approved factory representative. System scheduled for Commissioning.

Each controller shall be capable of, but not limited to the following features; 1) resetting water boiler temperature based upon OA, 2) provide system outputs to BMS via ModBus, 3) control lead/lag boiler operation, 4) Integrate with multiple burner control systems via same manufacture's burner manager, 5) provided with 7" touch screen display.

2.02 COMPRESSION TANKS:

A. HW Heating System (ET-1 to be reused, ET-2)

Compression tank ET-2 shall be installed per manufacturer's instructions complete with all necessary traps, air charging and draining valves and shut off cocks. Tank shall be manufactured by Taco CBX-130 or approved equal. Storage tank shall be vertically floor mounted, ASME rated with total storage capacity of 34.0 gallons, 19 gallons acceptable, max. working pressure 125 psig, and maximum working temperature 375 F. One bottom mounted, threaded 1" connections: two 1-1/2" top connections. Tank dimensions 20" diameter x 38" high.

2.03 HW CIRCULATING PUMPS:

A. CP #1 & 2- HW System

Provide HW circulating pumps, base mounted, centrifugal type as shown on plans. Pumps shall be manufactured by Taco acceptable pump manufactures. Taco 00e Series pumps with high efficient variable ECM motors for use with manufacture's supplied VFDs.

Provide HW circulating pumps as shown on plans. Pumps are Taco 00e Series VR 15-L.

Pump #	GPM	HEAD	HP	RPM	VOLTS	PHASE	IMPEL	
CP-1	48.0	15'	0.7	1760	208v	1	7.6"	Hi Eff EC TEFC Motor
CP-2	48.0	15'	0.7	1760	208v	1	7.6"	Hi Eff EC TEFC Motor

Provide standard sensorless pressure controlled feature. BMS communication interface capability: 0-10Vdc & Modbus RTU.

Provide new 2.0" size MPV's. Provide 2" ball, full port type isolation valves for each pump set. Provide factory start-up during commissioning for all pumps.

B. CP-3 HW System

Provide HW circulating pump in-line centrifugal type as shown on plans. Pumps shall be manufactured by Taco as acceptable pump manufactures. Taco series VDTF3 -0013.

Pump #	GPM	HEAD	HP	RPM	VOLTS	PHASE	IMPEL	Flange	TYPE
CP-3	30.0	10'	1/6	Variable	120	1	-	1.0"	Inline

Provide balance valves, isolation valves, wye strainer, and stainless steel flex connector for each pump as detailed. Motors Hi Eff +3 TEFC type.

2.04 AIR SEPARATOR: HW & CW

- A. AS-1: HW System: 3.0" air purge separator with strainer and 1/2" auto air eliminator, Taco Model #4903A--125A series or approved equal. Air vent, Amtrol #706 or approved equal.

2.05 CHEMICAL/GLYCOL MIXING FEED SYSTEMS

Provide one chemical/glycol feed system which shall include 50 gallon polyethylene mixing tank with hinged polyethylene cover. Tank shall be supported by carbon steel bottom mount stand, painted with enamel. NEMA 4x control panel with H/O/A switch, 8 ft. 120v power cord, gear pump, bottom mount, pressure switch, pressure relief valve, suction valve with strainer, and 3/4" outlet. J.L. Wingert Co., model GL50-E1 or Skidmore S-55-100-2-PEPS.

- 2.06 LP GAS PIPING: Provide and install (2) 1000 gallon, underground, LP gas tanks, with vaporizer, and piping systems as indicated on plans. Contractor is to coordinate with local gas utility Dead River Company for the LP gas tanks and U.G. piping systems. Provide underground LP gas piping to Mechanical Room as shown on plans, details and per Venders installation recommendations.

All above ground LP Gas piping shall be schedule 40, A120, sch. 40 steel pipe with M.I. pipe fittings. All underground piping shall be sleeved or encased properly as recommended.

All piping shall be piped and installed in accordance with NFPA 54. All interior and exterior above ground gas piping shall be painted with one primer and one coat yellow acrylic. Piping system shall be tested at 1-1/2 times the working pressure, but not less than 50 Psi before LP gas piping is placed in service. All leaks shall be repaired in a manner.

2.07 HW WATER PIPING SYSTEMS

- A. PIPING: All HWS & HWR piping 2 1/2" to 4" shall be steel schedule 40-ASME 120 pipe with either screwed type Malleable iron fittings, or welded pipe and fittings. Victualic fittings will be acceptable for HW systems. HWS & HWR, piping 2" and smaller shall be steel schedule 40 ASME 120 pipe with screwed type fittings or type L copper with sweat copper fittings, acceptable.

All piping shall be installed so as to provide allowances for expansion and contraction and

shall be thoroughly cleaned and reamed before installation.

- B. VALVES: Gate valves shall be all bronze body, non-rising stem, renewable composite disk, union bonnet, 125 Lb. W.S.P.. Valve body shall be designed such that repacking valve under pressure is possible. With the exception of steam, Shut off valves 2" and smaller may be ball type, inline service (3-piece), bronze, full port, with fiberglass reinforced teflon seats. Acceptable valves shall be : Apollo-3, Watts Series B-6800, Fairbanks No. 0851 "Sphero", Hammond Series BV-811. Shut off valves 2-1/2" and larger shall be cast iron body OS & Y type with rising stem. ITT Grinnell, Fairbanks, Jenkins manufactures are acceptable.

Shut off valves shall be installed on all main and sub main branches and as shown on the Drawings, details and where specified: Provide shut off valves on branch lines and as detailed.

- C. BALANCING VALVES: Balancing valves shall be provided for all terminal heating and cooling unit, and branch mains as indicated. The flow measuring device shall have a calibrated orifice, disconnects, chain metal tag-ball valve shutoff with memory locking device. Balancing valves shall be Gerand, or Taco.
- D. CHECK VALVES: Check valves shall be 300 lbs non shock type, capable of changing disc without removing valve body. Jenkins, Mueller Muesco 101AP or approved equal.
- E. AIR VENTS: Float type air vents shall be automatic and installed at all high points in the system and at the top of each coil and drain valve at all low points. Vents shall be Bell and Gossett Company, Amtrol #706 or equal.
- F. DRAIN VALVES: Drain valves shall be installed in all low points in the system and on supply and return connections for chemical cleaning. Drain valves shall be ball type with hose connector and cap and chain.
- G. STRAINERS: Provide wye strainers for all hot and chill water coil equipment. Wye strainer shall be 125 lb. iron body, with 20 mesh stainless steel screen, threaded ends or sweat ends.
- H. PRESSURE GAUGES: Provide pressure gauges (commercial Grade B) in supply and return connections to each pump. Gauges shall have a scale with a mid-point of approximately 50 psig. Pressure gauges shall be of the 4-1/2" size cast aluminum cases, phosphor bronze bourbon tubes, brass movements, white dial faces with black lettering and adjustable black pointer and brass sockets. Pressure gauges shall be Trerice #6001 or approved equal. All gauges shall be provided with Trerice #872 pressure snubber or approved equal. All pressure gauges shall be equipped with Trerice #865T handle gauge cocks or approved equal. All gauges shall be provided with vibration dampener and shall be as manufactured by March, U.S. Gauge, Weiss and Trerice.
- I. THERMOMETERS: Thermometers shall be stainless steel, bi-metal, 5" diameter face adjustable angle, with separable brass sockets, 4" stem length; the range shall be -40 degrees F to 60 degrees F for chill water piping. Thermometers shall be manufactured by Marsh, Weiss, Tel-Tru, Trerice (B85600) or approved equal.

- J. VIBRATION FLEX JOINTS; Vibration joints for pumps, AHU coils shall be bronze or stainless steel braid hose type, rated for 125 psi minimum, manufactured by Flexonics PCB series or equal.
- K. DRAIN VALVES: Drain valves shall be installed in all low points in the system and on supply and return connections for chemical cleaning. Drain valves shall be ball type with hose connector and cap and chain.
- L. DIELECTRIC UNIONS: Dissimilar piping materials: Where there is a junction of two different metallic piping materials, and where electrolysis may occur, provide dielectric unions or companion flanges with non conductive gaskets.

2.08

HANGERS AND SUPPORTS:

- A. Provide all pipe hangers and equipment supports, and be responsible for proper and permanent location. All piping and equipment shall be supported and fastened in a satisfactory manner.
- B. All piping shall be rigidly supported from the building structure by means of approved hangers and supports. Horizontal piping shall be hung with adjustable wrought iron or malleable iron pipe hangers, clevis or roller type unless otherwise specified, spaced as follows:

Pipe Size	Rod Diameter	Maximum Spacing	Hanger Type
3 / 4"	3 / 8"	5'-0"	Clevis
1"	3 / 8"	6'-0"	Clevis
1-1 / 4"	3 / 8"	8'-0"	Clevis
1-1 / 2" & 2"	1 / 2"	12'-0"	Clevis
2-1 / 2" & 3"	1 / 2"	12'-0"	Clevis w/ roller
4" & 5"	5 / 8"	15'-0"	Roller w/ spring

- C. Vertical piping shall have friction clamps on each floor. Vertical pipe risers shall be supported at each floor by friction clamps or inserting around the supply pipe, a coupling which shall rest on pipe sleeve. shall be firmly supported at their base, either by a suitable hanger placed on the horizontal line near the riser, or by a base fitting set on a pedestal or foundation carried down to a firm bearing.
- D. Hangers for piping shall be Carpenter-Patterson No. 1A Bank Type, Grinnell Co., Calco Steel Products Co., or equal, black steel with hanger rods with machine threads. For un-insulated, copper tubing, the hangers shall be copperized. Hanger for use on insulated service lines shall be sized to allow for insulation thickness, except that branch runouts to individual fixtures and water piping within concealed pipe chases shall be supported with split ring hangers attached directly to tubing.
- E. Chain, strap, perforated bar, or wire hangers will not be approved. Approved gang hangers may be used in lieu of separate hangers on pipes running parallel to each other and close together. Where used for copper tubing, the gang hangers shall have copper saddles or shall be sheet-lead coated.

- F. All insulated piping hanger supports shall be provide with hanger insulation protection saddles thickness of the associated pipe insulation. Carpenter & Paterson 350 series.
- G. Pipe and pipe support hanger shall be constructed of the same material such that electrolysis may not occur between hanger, protection saddle, etc. and piping.

2.07 PIPE INSULATION

- A. Unless otherwise noted or specified, insulate all piping conveying heating fluids with pre-molded fiberglass pipe insulation with all service jacket. Insulation average thermal conductivity shall not exceed 0.24 Btu per inch of thickness per square foot per degree F per hour at a mean temperature of 75 degrees F. Fire and smoke hazard for compositity insulation (, jacket or facing and adhesive) shall not exceed a flame spread of 25 and smoke developed of 50 per ASTM E84, NFPA 255 and UL 723. Insulation shall be Johns- Manville, FLAME SAFE, AP, Owens-Corning Fiberglass 25ASJ, KNAUF or approved equal.
- B. Insulation thickness for pipe sizes 1 1/2" and smaller shall be 1" thick with white removable protective jack. Insulated Pipe fittings shall match pipe insulation. HW piping 2" and larger shall be insulated with 1-1/2" thick pipe insulation with white removable protective jack.
- C. Condensate waste piping: Insulate with 1/2" thick pre-molded glass fiber insulation or Armaflex and fittings, flanges, valves, etc.
- D. Chilled water piping: provide 3/4" thick Armaflex # AP-2000 closed cell insulation or 1-1/2" high density fiberglass with white removable protective jack. All CWS & R piping, pumps, tanks, fittings, and system cold competent devices shall be insulated. Install per manufacture's recommended procedures.
- E. Steam and condensate: piping 1-1/2" and larger shall be insulated with 1-1/2" thick pipe insulation with white removable protective jack for all pi[ping fittings, flanges, valves,
- F. Exterior Piping: Exterior Piping: Insulation shall be 2" high density, mineral wool pipe insulation with all aluminum, Stocco & Boss 020 removable service jacket. All joints shall have stainless steel wing seals and bands. Insulation average thermal conductivity shall not exceed 0.24 Btu per inch of thickness per square foot per degree F per hour at a mean temperature of 75 degrees F.

2.08 ESCUTCHEONS

- A. Escutcheons shall be installed around all exposed pipe passing through a finished floor, wall, or ceiling. Escutcheons shall be heavy cast brass, chromium plated, adjustable, and shall be of sufficient outside diameter to cover sleeve opening and shall fit snugly around pipe, and lock with set screw.

2.09 SLEEVES:

- A. All sleeves shall be one-piece Schedule 40 steel pipe. The sleeves shall be fitted securely to prevent slipping or moving.
- B. All piping through masonry walls, floors, beams and partitions shall be sleeved. All sleeves shall finish flush with the finish line. All sleeves shall be chalked with an

approved water repellent and fire retardant sealant.

- C. Space between sleeves and piping shall be sealed watertight and/or gastight as described below:
 - 1. Un-insulated metal piping shall be sealed watertight and/or gastight by packing space between pipe and sleeve with approved packing. Special care shall be taken not to drive lead below top of sleeve. Mechanical seals may be used.
 - 2. Insulated piping and plastic piping shall be sealed watertight and/or gastight by packing space between pipe sleeve and insulation with an approved packing. Fill the remaining space with approved waterproof resilient adhesive sealant.
- D. Sleeves shall be of size to allow for continuous full thickness of pipe insulation through sleeve.
- E. Provide waterproof sleeve or casting on each pipe entering or leaving building through foundation walls and tank pits, or wet wells. Seal space between each pipe and its waterproof sleeve. Each end of sleeve shall be sealed as described above. Each pipe shall be concentric with sleeve. Sleeves shall be waterproof type with welded or cast flange and of size and length to suit pipe and wall thickness. Sleeves shall be all galvanized after welding.

2.10 PIPE IDENTIFICATION:

- A. Provide color coded pipe identification markers on all piping in the building installed under this Section. Pipe markers shall be semi-rigid plastic identification markers equal to "Set Mark" Type "SNA" by Seton Nameplate Corporation or equal.
- B. Provide an arrow marker with each pipe content marker to indicate the direction of flow. If flow can be in either direction, use a double headed arrow marker.
- C. Piping shall be labeled at 20 foot intervals, adjacent to each valve, on each riser. This work shall be done after architectural finish painting where such is required on the pipes.
- D. The following color coding shall be used with names in black letters on backgrounds indicated:

<u>Service</u>	<u>Legend</u>	<u>Background Color</u>
Heating HWS	Heating HWS	Yellow
Heating HWR	Heating HWR	Yellow
#2 Fuel Oil Piping	Fuel Oil	Yellow

- E. In general, 3/4 inch high legend shall be used for pipe lines.
- F. All markers to be OSHA approved.

2.11 VALVE TAGS AND CHARTS:

- A. All valves on pipes of every description have neat circular 1 1/2 inch brass valve tag attached with brass chain to each valve stem. Stamp on these valve tags in white letters as large as practical the number of the valve and its service, such as "H.W.", "C.W." for hot water and cold water respectively. The number of each service shall be consecutive.
- B. Valve numbers shall correspond to numbers indicated for valves on the record Drawings and on two printed detailed lists. These printed lists shall state the numbers and location,

including the painted door room number, the location in the room (with location dimensions if concealed), of each valve and the fixture or group of fixtures which it controls, and other necessary information, such as requiring the opening or closing of another valve or valves, when any one valve is to be opened or closed.

- C. The printed lists shall be prepared in a form to meet the approval of the Architect and Owners. Record lists shall be included as part of O & M manuals.

2.12 METAL CHIMNEY BREECHING

- A. BREECHING: Provide necessary breeching flue pipe as shown on plans. Breeching shall be constructed of 16 ga. minimum cold rolled core 10 steel. Provide end cap clean out and make tie in connection shall be at a 45 degree angle. Provide one layer of 1-1/2" thick calcium silicate, asbestos free, insulation block with one 1/2" minimum thick calcium silicate cement. Material shall have an operating range up to 1200 degrees F. Approved manufacture, Owens Corning, Kaylo 10, or approved equal. Apply finish coat of approved white paint on final insulation covering.

2.13 COMMISSIONING:

- A. Commissioning: The Owner's Commissioning Agency shall be responsible to commission the sequence of boiler & control operations and devices and all HVAC equipment. Owner's ComX agency shall schedule and arrange meetings and procedures with the Mechanical contractor. Mechanical Contractor shall allow time for final Commissioning of involved systems.

2.14 AUTOMATIC TEMPERATURE CONTROLS

A. General:

The existing Building Management System, (B.M.S.) consists of multiple vendors of which neither system controls are currently interfaced with the HW Boiler plant operation. The new manufacture's Master controller shall determine burner operation as well as boiler lead / lag control.

B. System Guarantee:

The entire boiler control system shall be guaranteed for parts and labor a period of one (1) year from the date of acceptance by the Owner.

C. Diagrams and Supervision:

Provide any necessary wiring or piping diagrams and supervise the installation. These diagrams shall be incorporated into the Owner and Operating Manuals.

D. Control Panels:

In general, relays, transmitters, controllers, transformers, or other control devices (not including room thermostats) shall be grouped and mounted in a factory- built cabinet enclosure located in the Mechanical Room(s) or as indicated on plans.

E. Wiring:

It is the intent that all control wiring for installation of temperature controls shall be provided and installed by the A.T.C. Contractor, unless noted otherwise. Power wiring for HVAC equipment and wiring for boiler/burner package shall be by Electrical Contractor. All wiring shall comply with requirements of Electrical Section 26000 of the specification. Mechanical Contractor shall furnish temperature control devices with wiring diagram.

F. SEQUENCE OF CONTROLS:

2.14.F.01 PUMP CONTROL: (ADD Alt. #2)

CP- 1 & CP-2 H.W. circulating pumps shall be controlled on/off based upon existing control B.M.S. control sequence.

2.14.F.02 H.W. BOILER/BURNER:

A complete set of factory installed operating and safety controls shall be properly installed, checked, and calibrated to protect each boiler unit from abnormal operating conditions. All safety controls shall be manual reset type. Boiler manufacture's master control shall determine boiler lead/lag control staging, or boiler may operate in tandem reset temperature schedule.

2.14.F.03 HWS RESET

The boiler's master control system shall sense the HW supply hot water temperature and shall control to maintain required mixed reset hot water set point by means of HWS temperature control. Reset water temperature schedule shall be determined by O.A. temperature. Minimum HWS temperature setpoint shall not be less than 140 F, maximum 200°F.

2.14.F.04 COMBUSTION AIR / VENTILATION

The existing combustion air and room ventilation shall be reused.

2.14.F.05 SYSTEM MONITORING & ANNUNCIATION

The existing B.M.S. shall provide boiler system monitoring and alarm annunciation for the HW system as indicated on plans. This Boiler system shall be networked and integrated,

tie-in(s), into the existing BMS for the following: 1) Boiler lead / lag status, 2) HW low temperature alarm, 3) Boiler(s) flame failure alarms, 4) Individual boiler HW temperatures.

2.14.F.06 SYSTEM TRAINING

Contractor shall provide system training of all system components and DDC control programmed systems.

Provide 1 hours of training for the building operators. A mutual agreement on the scheduling of this training class will be made between the Owner and the Contractor. The training class will use the actual operator manual that will be submitted for this project.

In addition to the above training and after the project has been finally commissioned, the ATC Contractor shall allow for 2 hours of Owner customized software programming, additional custom sequence and time at the Owner request.

2.14.F.07 COMMISSIONING:

Commissioning: A.T.C. Contractor, as well as all involved Sub-Contractors, shall collaborate and coordinate efforts with the Owner's Agency to perform commissioning of control sequences.

2.14.F.08 DOCUMENTATION:

Proper and adequate documentation must be provided, this will include:

- a. Accurate as-built drawings and sequences submitted in hardcopy and electronic form.
Provide program files, graphic information, and updated standard Computer Aided Drafting (CAD) as built record drawings and specifications.
- b. Owner's manuals including technical spec sheets
- c. Operator manuals

2.14 MOTORS AND DRIVES:

- A. Unless otherwise noted, all motors/ drives sheave shall be furnished factory-mounted on the driven equipment and shall be provided by equipment manufacturer. Mechanical Contractor shall supply all motors to associated HVAC equipment. Electrical Contractor shall be responsible for providing motor starters, variable frequency drives, and disconnects and power wiring to all mechanical equipment including motor starters and terminating in such equipment. This Contractor and Electrical Contractor shall coordinate such installation of electrical equipment and both shall be present when motors of 1/2 hp and larger are to be first energized.
- B. Motors shall meet the latest applicable standards of the following:
 - National Electric Manufacturers' Association (NEMA)
 - American National Standards Institute (ANSI)
 - Institute of Electrical and Electronic Engineers (IEEE)
 - National Electrical Code (NEC)
 - Underwriters' Laboratories (UL)

- C. Motors shall be horizontal, induction type, for general purpose applications under usual indoor and outdoor service conditions as defined in NEMA Standard MG1-14.02 (Class B insulation, continuous 40 degrees C ambient).
- D. Unless otherwise noted, all motors 1/2 horsepower and larger shall be rated 230 volts, 1-phase, 60 hertz. All motors smaller than 1/2 horsepower shall be rated 120 volts, single-phase, 60 hertz.
- E. Motors shall develop rated horsepower at terminal voltage rating from 90 to 110 percent of rated frequency, and a combined frequency/voltage deviation of 10 percent at any frequency between 95 and 105 percent of rated.

PART THREE: EXECUTION

3.01 GENERAL

- A. The work shall be executed in strict conformance with the latest edition of the State Building Code and all local regulations that may apply. In case of conflict between the Contract Documents and a governing code or ordinance, the more stringent standard shall apply.
- B. All piping and ductwork shall be properly supported as approved by the Engineer.
- C. Follow equipment manufacturers' detailed instructions and recommendations in the installation and connection of all equipment. No equipment installation or connections shall be made in a manner that voids the manufacturer's warranty.
- D. Duct systems shall be thoroughly cleaned during erection.
- E. Refer to Section 06100 for specifications on cutting and sealing openings for piping, ductwork and other equipment penetrating walls, floors and roofs.
- F. Refer to Section 06100 and General Conditions for provisions governing work, including removal of existing equipment and advance notice of service interruption.
- G. All work shown on Drawings is diagrammatic. It is not intended to specify or to show every offset, fitting, and component. However, it is the intent of these Specifications and Drawings accompanying same that all required components and materials shall be furnished and installed under this Section, whether or not indicated or specified, in such a manner as to make the entire installation fully complete, operable and maintainable in all respects to satisfaction of Owner.
- H. Refer to appropriate sections for specifications on cutting and sealing openings for piping and other equipment penetrating walls, floors, and roofs.

Building Structure Penetrations; General Contractor to provide cutting & finish patching of all building structure penetrations involving removals and new installations of system items, devices, etc. associated with this trade. This contractor shall provide necessary and proper fire stop(s), water seal or weather stop(s), etc. associated with system device penetration. This trade shall coordinate all system component penetrations through building structure(s) with General Contractor and Owner.

3.02 GENERAL - PIPING

- A. All piping shall be installed so as to provide allowances for expansion and contraction and shall be thoroughly cleaned and reamed before installation.
- B. Shut off valves shall be installed on all main and sub main branches and as shown on the Drawings, details and where specified. Provide shut off valves on branch lines and as detailed.
- C. Piping system shall be tested at 1-1/2 times the working pressure, but not less than 50 psi. All leaks shall be repaired in a manner approved by the Engineer before applying insulation
- D. SLEEVES:

All piping through masonry walls, floors, beams and partitions shall be sleeved. All sleeves shall finish flush with the finish line. All sleeves shall be chalked with an approved water repellant and fire retardant sealant. Space between sleeves and piping shall be sealed watertight and/or gastight as described below:

- 1. Uninsulated metal piping shall be sealed watertight and/or gastight by packing space between pipe and sleeve with approved packing. Special care shall be taken not to drive lead below top of sleeve. Mechanical seals may be used.
- 2. Insulated piping and plastic piping shall be sealed watertight and/or gastight by packing space between pipe sleeve and insulation with an approved packing. Fill the remaining space with approved waterproof resilient adhesive sealant.

Sleeves shall be of size to allow for continuous full thickness of pipe insulation through sleeve.

Provide waterproof sleeve or casting on each pipe entering or leaving building through foundation walls and tank pits, or wet wells. Seal space between each pipe and its waterproof sleeve. Each end of sleeve shall be sealed as described above. Each pipe shall be concentric with sleeve. Sleeves shall be waterproof type with welded or cast flange and of size and length to suit pipe and wall thickness. Sleeves shall be all galvanized after welding.

3.03 GENERAL - DUCTWORK

- A. Assemble and install ductwork in accordance with recognized industry practices to achieve air tight (5% leakage) and noiseless (no objectionable noise) systems, and capable of performing each indicated service. Install each run with minimum of joints. Align ductwork accurately at connections, with internal surfaces smooth. Support ducts rigidly with suitable ties, braces, hangers and anchors of type which will hold ducts true-to-shape and to prevent buckling.

3.04 SEALING DUCT

After installation to seal class recommended in SMACNA "HVAC Duct Standards - 1st Edition 1985". Use sealant described in Paragraph 2.1 (G) of this section. All joints in sheet-metal ducts shall be made airtight, and all branches and turns shall be made with elbows and fittings. Elbows shall be provided with fixed double wall turning vanes designed

to reduce resistance of the elbow to equivalent of a long radius elbow with throat radius not less than duct width.

3.05 LOCATION OF DUCT

- A. Locate ductwork runs, except as indicated otherwise, vertically and horizontally and avoid diagonal runs wherever possible. Locate runs as indicated by diagrams, details and notations or if not otherwise indicated, run ductwork in shortest route which does not obstruct usable space or block access for servicing building and its equipment. Hold ducts close to walls overhead construction, columns, and other structural and permanent enclosure elements of building. Limit clearance to 1/2" where furring is shown for enclosure or concealment of ducts, but allow for insulation thickness, if any. Where possible, locate insulated ductwork for 1" clearance outside of insulation. Wherever possible in finished and occupied spaces, conceal ductwork from view by locating mechanical shafts, hollow wall construction or above suspended ceilings. Do not encase horizontal runs in solid partitions except as specifically shown. Coordinate layout with suspended ceiling, lighting layouts and similar finished work.
- B. Electrical Equipment Spaces: Do not run ductwork through electrical equipment spaces and enclosures.
- C. Where ducts pass through interior partitions and floors, conceal space between construction opening and duct or duct- plus-insulation with sheet metal flanges of same gauge as ducts. Over lap opening on 4 sides by at least 1-1/2" and seal to prevent sound transmission.
- D. Coordinate duct installations with installation of accessories, dampers, coil frames, equipment, controls and other associated work of ductwork system.
- E. Support ductwork in manner complying with SMACNA "HVAC Duct Standards - 1st Edition 2004 hangers and supports section.
- F. Provide openings in ductwork where required to accommodate thermometers and controllers. Provide pitot tube openings where required for testing of systems, complete with metal can with spreing device or screw to ensure against air leakage. Where openings are provided in insulated ductwork, install insulation material inside a metal ring.
- G. Clean duct system and force air at high velocity through duct to remove accumulated dust. Cheese-cloth shall be secured over each air outlet to entrain dirt and dust during this operation. Duct systems shall be thoroughly cleaned during erection.
- H. Provide adequate access into ductwork for cleaning purposes.

3.06 COORDINATION WITH ELECTRICAL WORK

- A. Available electric power shall be, in general, 230/120 volt, 1 phase, 60 hertz for motors of 1/2 hp and higher, and 120 volts, 1 phase, 60 hertz for motors smaller than 1/2 hp.

- B. Unless otherwise specifically noted, all 208v 3 phase motors furnished in this Section shall be furnished with magnetic across the line starters with H-O-A switch and reset push button in cover, and control transformer as necessary for reduced voltage, all contained in suitable general purpose enclosure. Electrical Contractor shall be responsible for providing motor starters and disconnects and power wiring to all mechanical equipment including motor starters and terminating in such equipment. This Contractor and Electrical Contractor shall coordinate such installation of electrical equipment and both shall be present when motor of 1/2 hp and larger are to be first energized. All coil control wiring shall be done under this section except as otherwise noted. Each unit shall be equipped with necessary auxiliary contacts for its application. Coil voltage shall not exceed 120 volts. Connections to the selector switch shall be such that only the normal automatic regulatory control devices will be bypassed when the switch is in the manual position; all safety control devices, such as motor overload protective devices, shall be connected in the motor control circuit in both the manual and the automatic positions of the selector switch. The starters solid state type with adjustable overcurrent relays, shall be as manufactured by Telemecanique, Westinghouse, General Electric or Cutler Hammer. Starters for outdoor equipment shall be weatherproof-type if exposed to the elements.
- C. Unless otherwise noted, and where a magnetic starter is not required, 120v single phase motors furnished in this section shall be furnished with a manual toggle type starter with overload heaters and red pilot lights in a suitable general purpose enclosure supplied and installed by the electrical contractor. The units shall be as manufactured by Westinghouse, General Electric or Cutler Hammer.
- D. Unless otherwise noted all control and interlock wiring with appurtenances necessary to make the work of this section complete shall be furnished and installed under this section. See "Automatic Temperature Controls" section.
- A. Starters for all 230v 1 phase equipment shall be provided with thermal overload solid state type, relays.

3.07 COMPLETION

- A. The contractor shall provide four report copies of the complete balancing and adjusting of all air, and water systems as specified as well as duct pressure test results.
- B. Submit four copies of maintenance data and operating instructions including schematic diagrams of control systems, valve tagging charts, spare parts lists, extended warranty certificates, etc.
- C. Verify that project record documents are complete such as Submittals and Record Documents. Clean and repair damage to finished surfaces resulting from work under this Section. Remove materials and equipment from areas of work and storage areas. All dirt and debris resulting from the work shall be thoroughly taken up and removed from the premises on a regular schedule acceptable by Architect/Engineer/Owner. All equipment shall be cleaned for inspection and use.
- D. All special tools required for maintenance shall be provided to owner at the completion of the project.

- E. Provide two extra sets of clean air filters for the all air handling and ventilation equipment
Install one set and leave with the owner one other set.
- D. Commissioning: Time shall be allotted for each Construction Phase of this project for commissioning of systems, equipment, devices, etc,. Mechanical Contractor, as well as all involved Sub-Contractors, shall collaborate and coordinate efforts with Commissioning Agency for the duration of all three construction phases.
- F. Documentation : Proper and adequate documentation must be provided, this will include:
 - a. Accurate as-built drawings and sequences submitted in hardcopy and electronic form, flash drive, or CD, formatted in 2013 Autocad standard Computer Aided Drafting (CAD) program.
 - b. Owner's manuals including technical spec sheets
 - c. Operator manuals

END OF SECTION

SECTION 26 00 00

ELECTRICAL POWER & LIGHTING

PART ONE: GENERAL

- 1.01 A. The work covered by this section of the specification shall include all equipment, materials, labor, transportation, permits, inspections and incidentals required to complete all operations in connections with the installation of electrical systems as shown on the drawings and/or as herein specified. The Contractor shall assume complete responsibility for receiving, storing, handling, and installing all equipment.
- B. The general provisions of the contract, including the General Conditions, Contract Conditions, and Drawings apply to work specified in this section.

1.02 WORK SPECIFIED IN THIS SECTION

- A. Demolition of Existing
B. Power Wiring for Fixtures, Devices, and Mechanical Equipment

1.03 WORK SPECIFIED ELSEWHERE

- A. Section 23 00 00: Heating & Ventilation

1.04 SCOPE OF WORK

The contractor shall provide all materials, labor, and supervision necessary to furnish and install a complete operating electrical system as indicated and as necessary. The work shall include but not be limited to the following.

- A. Furnish and install power to all mechanical equipment.
- B. Furnish and install all power wiring to motor starters, VFD's, and disconnects. Provide motor starters and VF drives that are not supplied by mechanical equipment. Magnetically held type motor starters and disconnects associated with HVAC and plumbing equipment shall be furnished by the Electrical Contractor. Automatic Temperature Control Contractor shall furnish and install control wiring associated with control devices, unless otherwise noted. Electrical Contractor shall fully review Mechanical Plans and Specification Division 23 00 00 for power requirements and equipment locations.
- C. Demolition: Provide necessary demolition of existing overhead and underground electrical services to existing structures. Coordinate efforts with General Contractor.

1.05 CODE COMPLIANCE

1.05.1 All wiring shall comply with the 2026 Edition of the National Electrical Code NFPA 70, the 2021 Edition of the Life Safety Code NFPA 101, and all applicable OSHA, federal, state, and local codes. Obtain and pay for all required permits.

1.06 SUBMITTALS

1.06.1 Within 30 days of the contract award, submittals are required for the following equipment.

- a) Lighting fixtures
- b) Disconnect switches
- c) Motor starters and Variable Frequency Drives
- d) All Wiring devices
- e) Power Switch Equipment & Electrical Distribution Panels

PART 2 PRODUCTS

2.01 ELECTRICAL SERVICE AND DISTRIBUTION EQUIPMENT

2.01 WIRING MATERIALS

2.01.1 Conductors shall be #12 AWG minimum with THWN/THHN insulation rated 90 degrees C. All conductors shall be copper. Type MC cable may be used for branch circuits only as long as it is well protected from damage, sharp edges, etc.. Type NM cable may not be used for powering equipment devices of voltage 120 volts or higher. Type NM cable may be used for low voltage system wiring such as fire alarm and A.T.C. system devices. All cable shall be run perpendicular to building structure. Where multi-wire branch circuits are used, wires shall be color coded to indicate the phase. The color code shall be posted at the panelboard.

All HVAC, Service Closets, Mechanical and Electrical Equipment Rooms:

All power and low voltage wiring serving these areas shall be feed using metal conduit, EMT or rigid conduit.

2.01.2 Conduit (rigid and EMT) shall be used in designated power feeds, main equipment loads, electrical, mechanical rooms, and where indicated on the plans and where required for protection from physical damage. The conduit shall not be used as a grounding conductor.

Where flexible connections are required, such as motor connections, liquid tight flexible metal conduit shall be used for exterior, wet locations. MC cable may be used for interior flexible connections. Supplemental grounding conductors shall be used, sized by Article 250-95.

2.01.3 Except as otherwise indicated, boxes shall be metal. Where devices are installed on 4" square boxes, plaster rings shall be used. All boxes shall be of sufficient size for the conductors contained within.

2.02 SPECIALTIES

- 2.02.1 HW Boiler/Burner Systems: Limited wiring shall be provided and wired by this contractor. Existing 208v/1ph/60hz power circuit shall be reused and rewired. Boiler and burner power Requirements involve 120v/1ph/60hz. Provide individual fused disconnects to each burner control circuits.
- 2.02.2 Burner safety interlocks. Contractor shall coordinate necessary safety hardware devices along with wiring to burner safety functions. Contractor shall coordinate efforts with HW boiler manufacture and Mechanical Contractor.
- 2.02.3 HW Circulator Pumps. Contractor shall coordinate necessary hardware wiring for the two new HW pumps CP-1 & 2. New motor starter/disconnects shall be reused along with service power source. Contractor shall coordinate efforts with HW pump manufacture and Mechanical Contractor.

2.03 MOTORS

- 2.03.0 All motors shall be furnished factory-mounted on the driven equipment and shall be provided by equipment manufacturer. Mechanical Contractor shall supply all motors to associated HVAC equipment, unless otherwise noted. This Contractor and Mechanical Contractor shall coordinate such installation of electrical equipment and both shall be present when motors of 1/2 hp and larger are to be first energized.
- 2.03.1 Furnish and install branch circuit wiring for power to all motors. Control wiring shall be furnished by A.T.C. under this specification.
- 2.03.2 Furnish and install motor disconnect switches for servicing of equipment located at all motors. Disconnect switches shall be furnished with dual element time delay fuses to match NEC requirements and equipment specifications. In no case shall the maximum fuse size specified by the equipment manufacturer be exceeded.
- 2.03.3 Manual motor starters for fractional horsepower motors shall be General Electric CR 101 Y in NEMA 1 enclosures or flush mounted. Furnish and install overload heaters in accordance with manufacturer's nameplate.
- 2.03.4 Magnetic motor starters shall be General Electric style CR306. Starters shall be furnished with HOA selector switch. Furnish and install overload heaters in accordance with manufacturer's nameplate.
- 2.03.5 Where running conduit, equipment shall be connected to power wiring by means of flexible metal conduit or liquid tight flexible conduit in damp or wet locations. Only listed fittings shall be used. A separate grounding conductor shall be installed in all flexible raceways.

PART 3 EXECUTION OF WORK

- 3.00 All work shall be performed in a neat workmanlike manner. All efforts shall be made to coordinate the work with their trades.

Provide necessary and proper fire stop(s), water seal or weather stop(s), etc. associated with system device penetration. Coordinate all system component penetrations through building structure(s) with General Contractor and Owner.

3.01 Examination

- A. Verify field measurements and circuiting arrangements are as shown on Drawings.
- C. Beginning of demolition means installer accepts existing conditions.

3.02 PREPARATION

- A. Disconnect electrical systems in walls, floors, and ceilings scheduled for removal.
- B. Coordinate utility service outages with Utility Company.

3.03 DEMOLITION OF EXISTING ELECTRICAL WORK

- A. Demolish of existing electrical work under provisions of General Conditions, and this Section.
- B. Existing Electrical Service: Provide removal of existing system OD services for building structure demolition.

3.04.1 TEMPORARY SERVICE

Electrical Contractor shall allow for all costs for temporary electrical usage during project construction. Electrical Contractor shall provide separate means of power electrical metering for construction utility electrical costs. Refer to Section 01 05 00 Temporary Facilities.

Wiring for temporary use of all trades throughout the building as follows: a 20 amp 120 volt source shall be available to all areas of construction with 50 ft. extension cord. The contractor shall furnish and install a 200 watt lamp outlet (or equivalent) for each 1000 sq. ft. of building area for temporary power and light.

3.05 GENERAL:

- 3.05.1 All materials entering into the installation must be new and of the quality specified, otherwise to be the best commercial quality obtainable for the purpose. All parts of the work and the erections thereof must be performed in the best and most substantial manner in accordance with the standards of the trade and all applicable codes.
- 3.05.2 All trenching and backfill for underground conduit shall be in accordance with all pertinent provision of Section 02200 Earthwork of these specifications.
- 3.05.3 Any item inadvertently omitted from the plans and specifications, but which is necessary for the proper completion and operation of the work, in accordance with the intent of the plans and specifications, shall be supplied by the contractor at no additional charge.
- 3.05.4 All questions as to the interpretation or extent of the drawings, and specifications shall be referred to the Engineer.
- 3.05.5 Throughout the progress of the work, the electrical subcontractor shall examine at the site, architectural drawings, together with drawings of equipment companies and other trades, and shall take note carefully all architectural changes and corresponding changes in other lines so that no work will be installed which would have to be removed or altered.
- 3.05.6 This subcontractor shall be responsible that advance information be given to the General

Contractor of location and size of all frames, boxes and openings needed.

- 3.05.7 The General Contractor will provide all boxed openings, recesses, lintels and bucks required for the admission of the work. Furnish him with all necessary information in ample time.
- 3.05.8 In no case may any structural member be pierced or violated in any way without written permission from the Engineer.
- 3.05.09 The electrical contractor shall take effective measures to protect all materials and fittings from loss or damage; and all pipe and duct openings from obstruction throughout the construction.
- 3.05.10 All dirt and debris resulting from the work shall be thoroughly taken up and removed from the premises. All equipment shall be cleaned for inspection and use.
- 3.05.11 All electrical conduit shall be concealed in ceiling space or partitions except EMT conduit located in Mechanical Room. Provide means of venting conduit, enclosures, etc. of condensation where moisture may occur.

3.06 COMPLETION:

- A. Panel Board Name Plates and Schedules: All panel boards shall have name tags noting service and number which shall be noted on record Drawings and Charts. Each panel shall be provided with breaker schedules.
- B. Provide properly executed certificate of inspection from authorities having jurisdiction.
- C. Instruct such persons as the Owner designates in the proper operation and maintenance of the systems and their parts. Submit to the Architect a letter naming the person or persons so instructed and the dates of such instruction.
- D. Commissioning: Time shall be allotted before the completion of this project for final commissioning of systems, equipment, devices, etc.,. Electrical Contractor, as well as all involved Sub-Contractors shall collaborate and coordinate with Owner's Commissioning Agency.
- E. Prepare and deliver four sets of complete literature showing operating, service and replacement data for all equipment which will require periodic maintenance or replacement.
- F. Documentation : Proper and adequate documentation must be provided, this will include:
 - a. Accurate as-built drawings and sequences submitted in hardcopy and CD disk form updated via a standard 2013 Computer Aided Drafting (CAD) program)
 - b. Owner's manuals including technical spec sheets
 - c. Operator manuals

END OF SECTION

State of Maine
Department of Labor
Bureau of Labor Standards
Augusta, Maine 04333-0045
Telephone (207) 623-7906

Wage Determination - In accordance with 26 MRS §1301 et. seq., this is a determination by the Bureau of Labor Standards, of the fair minimum wage rate to be paid to laborers and workers employed on the below titled project.

2026 Fair Minimum Wage Rates – Building 2 Knox County (other than 1 or 2 family homes)

Occupational Title	Minimum Wage	Minimum Benefit	Total
Brickmasons and Blockmasons	\$43.91	\$28.47	\$72.38
Bulldozer Operator	\$30.62	\$5.38	\$36.00
Carpenter	\$27.70	\$7.05	\$34.75
Cement Masons and Concrete Finisher	\$27.44	\$0.87	\$28.31
Construction and Maintenance Painters	\$29.16	\$3.32	\$32.48
Construction Laborer	\$25.32	\$2.04	\$27.36
Conveyor Operators and Tenders	\$30.17	\$13.77	\$43.94
Crane and Tower Operators	\$40.43	\$8.63	\$49.06
Crushing Grinding and Polishing Machine Operators	\$26.15	\$3.24	\$29.39
Earth Drillers - Except Oil and Gas	\$25.04	\$3.77	\$28.81
Electrical Power - Line Installer and Repairers	\$48.12	\$15.63	\$63.75
Electricians	\$36.22	\$19.40	\$55.62
Elevator Installers and Repairers	\$74.17	\$38.44	\$112.61
Excavator Operator	\$34.12	\$6.49	\$40.61
Fence Erectors	\$30.90	\$2.18	\$33.08
Flaggers	\$21.39	\$0.86	\$22.25
Floor Layers - Except Carpet/Wood/Hard Tiles	\$29.00	\$8.65	\$37.65
Glaziers	\$39.32	\$19.22	\$58.54
Hazardous Materials Removal Workers	\$24.12	\$1.60	\$25.72
Heating and Air Conditioning and Refrigeration Mechanics and Installers	\$34.53	\$5.29	\$39.82
Heavy and Tractor - Trailer Truck Drivers	\$29.13	\$3.98	\$33.11
Highway Maintenance Workers	\$23.30	\$1.14	\$24.44
Industrial Machinery Mechanics	\$29.97	\$6.74	\$36.71
Industrial Truck and Tractor Operators	\$24.61	\$4.21	\$28.82
Insulation Worker - Mechanical	\$27.35	\$6.05	\$33.40
Light Truck or Delivery Services Drivers	\$26.79	\$5.14	\$31.93
Loading Machine and Dragline Operators	\$29.71	\$4.79	\$34.50
Millwrights	\$26.73	\$24.69	\$51.43
Mobile Heavy Equipment Mechanics - Except Engines	\$30.67	\$5.10	\$35.77
Operating Engineers and Other Equipment Operators	\$39.74	\$3.67	\$43.41
Paving Surfacing and Tamping Equipment Operators	\$30.74	\$10.67	\$41.41
Pile-Driver Operators	\$37.15	\$3.12	\$40.27
Pipe/Steam/Sprinkler Fitter	\$31.88	\$19.30	\$51.18
Pipelayers	\$28.75	\$3.64	\$32.39
Plumbers	\$31.30	\$6.35	\$37.65
Radio Cellular and Tower Equipment Installers	\$34.72	\$5.63	\$40.35
Reinforcing Iron and Rebar Workers	\$32.94	\$25.00	\$57.94
Riggers	\$31.25	\$7.68	\$38.93
Roofers	\$22.93	\$4.35	\$27.28
Sheet Metal Workers	\$27.85	\$6.44	\$34.29
Structural Iron and Steel Workers	\$28.22	\$4.33	\$32.55
Tapers	\$29.16	\$5.64	\$34.80
Telecommunications Equipment Installers and Repairers - Except Line Installers	\$43.59	\$21.08	\$64.67
Telecommunications Line Installers and Repairers	\$28.49	\$5.29	\$33.78
Tile and Marble Setters	\$28.91	\$5.46	\$34.37

Welders are classified as the trade to which welding is incidental (e.g. welding structural steel is Structural Iron and Steel Worker)

Apprentices – The minimum wage rates for registered apprentices are the rates recognized in the sponsorship agreement for registered apprentices working in the pertinent classification.

For any other specific trade on this project not listed above, contact the Bureau of Labor Standards for further clarification.

Title 26 §1310 requires that a clearly legible statement of all fair minimum wage and benefits rates to be paid the several classes of laborers, workers and mechanics employed on the construction on the public work must be kept posted in a prominent and easily accessible place at the site by each contractor and subcontractor subject to sections 1304 to 1313.

Appeal – Any person affected by the determination of these rates may appeal to the Commissioner of Labor by filing a written notice with the Commissioner stating the specific grounds of the objection within ten (10) days from the filing of these rates.

A true copy

Attest: 
Scott R. Cotnoir
Wage & Hour Director
Bureau of Labor Standards

Supersedes 02-03-2025
Effective 01-10-2026