PAUL DESIGNS PROJECT

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SPECIFICATIONS FOR

MAINE STATE PRISON

GATEHOUSE IMPROVEMENT PROJECT

807 CUSHING ROAD.

WARREN, MAINE

28 MAY 2026

PAUL DESIGNS PROJECT PLLC
PORTLAND, ME

BGS Project #3820

Gatehouse Improvement Project

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Notice to Contractors

Gatehouse Improvement Project BGS 3820

This project consists of the demolition of the existing gatehouse officers' enclosure and the construction of a new mass-timber enclosure in its place. The sally port will remain in service. The existing sally port roof structure, insulation, and membrane will be removed and replaced with a new glulam deck and roofing system. Careful coordination with the Department of Corrections will be required to maintain facility operations and ensure proper project phasing throughout construction. See drawings for additional information.

The contract shall designate the Substantial Completion Date on or before *15 March 2027*, and the Contract Final Completion Date on or before *31 March 2027*.

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 ***22 June 2026***. The email subject line shall be marked "**Bid for *Gatehoue Improvement Project***".

   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 must submit a request for access to BGS.Architect@Maine.gov.

   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 *15 June 2026*.

   Paul Designs Project
   Paul Bryant
   Paul@pauldesignsproject.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 <u>not</u> required on this project.

00 11 13
Notice to Contractors

5. ☒ 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.

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

7. ☐ 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.

8. ☒ 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.
   10am June 9th 2026
   Maine State Prison
   807 Cushing Rd
   Warren, ME 04864
   Meet at Main Entrance

   or
   ☐ An on-site pre-bid conference will not be conducted for this project.

9. Bid Documents - full sets only - will be available on or about *28 May 2026* and may be obtained *no cost electronically* from:
   Paul Designs Project
   Paul@pauldesignsproject.com

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.

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.

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

Gatehouse Improvement Project BGS 3820

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

Bid Administrator:
Kristen Haskell 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 *Gatehouse Improvement Project* Project Manual dated *May 28, 2026*, prepared by *Paul Designs Project*, 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

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

1	*insert brief name of Allowance or "Not Used"*	$ *0*.00
2	*insert brief name of Allowance or "Not Used"*	$ *0*.00
3	*insert brief name of Allowance or "Not Used"*	$ *0*.00
4	*insert brief name of Allowance or "Not Used"*	$ *0*.00

3. Alternate Bids *are not included* on this project.
   No Alternate Bids
   Any dollar amount line below that is left blank by the Bidder shall be read as a bid of **$0.00**.

1	*insert title of Alternate or "not used"*	$ _____ .00
2	*insert title of Alternate or "not used"*	$ _____ .00
3	*insert title of Alternate or "not used"*	$ _____ .00
4	*insert title of Alternate or "not used"*	$ _____ .00

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%.***

		UNIT	ADD	DEDUCT
1	*insert title of Unit Price or "not used"*	*XX*	$_____	$_____
2	*insert title of Unit Price or "not used"*	*XX*	$_____	$_____
3	*insert title of Unit Price or "not used"*	*XX*	$_____	$_____

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).

00 43 13
Contractor Bid Bond

Bond No.: **insert bond number**

We, the undersigned, ***insert company name of Contractor***, ***select type of entity*** of ***insert name of municipality*** in the State of ***insert name of state*** as principal, and ***insert name of surety*** as Surety, are hereby held and firmly bound unto ***select title of obligee*** in the penal sum of ***five percent of the bid amount***, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns, signed this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the first specified bid due date, or subsequent bid due date revised by addendum.

The condition of the above obligation is such that whereas the principal has submitted to the Owner, or State of Maine, to a certain bid, attached hereto and hereby made a part hereof, to enter into a contract in writing, for the construction of ***insert name of project as designated in the contract documents***

Now therefore:

If said bid shall be rejected, or, in the alternate,

If said bid shall be accepted and the principal shall execute and deliver a contract in the form of contract attached hereto, properly completed in accordance with said bid, and shall furnish a bond for the faithful performance of said contract, and for the payment of all persons performing labor or furnishing material in connection therewith, and shall in all other respects perform the agreement created by the acceptance of said bid, then this obligation shall be void.

Otherwise, the same shall remain in force and effect- it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received hereby stipulates and agrees that the obligation of said Surety and its bonds shall be in no way impaired or affected by any extension of the time within which the Obligee may accept such bid and said Surety does hereby waive notice of any such extension.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

00 43 13
Contractor Bid Bond

In witness whereof, the principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set above.

Signed and sealed this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the first specified bid due date, or subsequent bid due date revised by addendum.

Contractor

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

Surety

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

If Contractor is a partnership, all partners shall execute the bond. A power of attorney document indicating that it still is in full force and effect shall be provided by the person executing this bond.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

AdvantageME CT# _____

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	*$0.00*
Alternate Bid number and name or "no Alternates"	*$0.00*
Alternate Bid number and name or "no Alternates"	*$0.00*
Alternate Bid number and name or "no Alternates"	*$0.00*
Alternate Bid number and name or "no Alternates"	*$0.00*
Alternate Bid number and name or "no Alternates"	*$0.00*
Total Contract Amount	***$0.00***

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:**
Signature *Date* *insert name*	*Signature* *Date* *John Kenney, P.E.*
Project Manager/ Contract Administrator	*Director, Planning Design and Construction Division (PDCD)*

00 61 13.13
Contractor Performance Bond

Bond No.: **insert bond number**

We, the undersigned, ***insert company name of Contractor***, ***select type of entity*** of ***insert name of municipality*** in the State of ***insert name of state*** as principal, and ***insert name of surety*** as Surety, are hereby held and firmly bound unto ***select title of obligee*** in the penal sum of the Contract Price $ ***insert the Contract Price in numbers*** for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of the above obligation is such that if the principal shall promptly and faithfully perform the contract entered into this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the notice of intent to award letter, or in the absence of such a letter, not later than the date the Owner signs the construction contract, for the construction of ***insert name of project as designated in the contract documents***, then this obligation shall be null and void.

Otherwise, the same shall remain in force and effect- it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received hereby stipulates and agrees that the obligation of said Surety and its bonds shall be in no way impaired or affected by any extension of the time which the Obligee may accept during the performance of the contract and said Surety does hereby waive notice of any such extension.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

00 61 13.13
Contractor Performance Bond

In witness whereof, the principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set above.

Signed and sealed this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the notice of intent to award letter, or in the absence of such a letter, not later than the date the Owner signs the construction contract.

Contractor

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

Surety

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

If Contractor is a partnership, all partners shall execute the bond. A power of attorney document indicating that it still is in full force and effect shall be provided by the person executing this bond.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

00 61 13.16
Contractor Payment Bond

Bond No.: **insert bond number**

We, the undersigned, ***insert company name of Contractor***, ***select type of entity*** of ***insert name of municipality*** in the State of ***insert name of state*** as principal, and ***insert name of surety*** as Surety, are hereby held and firmly bound unto ***select title of obligee*** in the penal sum of the Contract Price $ ***insert the Contract Price in numbers*** for the use and benefit of claimants, defined as an entity having a contract with the principal or with a subcontractor of the principal for labor, materials, or both labor and materials, used or reasonably required for use in the performance of the contract, for the payment of which, well and truly to be made, we hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

The condition of the above obligation is such that if the principal shall promptly satisfy all claims and demands incurred for all labor and materials, used or required by the principal in connection with the work described in the contract entered into this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the notice of intent to award letter, or in the absence of such a letter, not later than the date the Owner signs the construction contract, for the construction of ***insert name of project as designated in the contract documents***, and shall fully reimburse the obligee for all outlay and expense with said obligee may incur in making good any default of said principal, then this obligation shall be null and void.

Otherwise, the same shall remain in force and effect- it being expressly understood and agreed that the liability of the Surety for any and all claims hereunder shall, in no event, exceed the penal amount of this obligation as herein stated.

The Surety, for value received hereby stipulates and agrees that the obligation of said Surety and its bonds shall be in no way impaired or affected by any extension of the time which the Obligee may accept during the performance of the contract and said Surety does hereby waive notice of any such extension.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

00 61 13.16
Contractor Payment Bond

In witness whereof, the principal and the Surety have hereunto set their hands and seals, and such of them as are corporations have caused their corporate seals to be hereto affixed and these presents to be signed by their proper officers, the day and year first set above.

Signed and sealed this ***insert date, i.e.: 8th*** day of ***select month***, ***select year***, which is the same date as that of the notice of intent to award letter, or in the absence of such a letter, not later than the date the Owner signs the construction contract.

Contractor

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

Surety

(Signature)

insert name and title

insert company name

insert address
insert city state zip code

If Contractor is a partnership, all partners shall execute the bond. A power of attorney document indicating that it still is in full force and effect shall be provided by the person executing this bond.

[Fillable bond forms may be downloaded from the Bureau of General Services website.]

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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 the 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. See also *Responsive and Responsible Bidder*.

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 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 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 Expiration Date*: Date determined by the Owner as a deadline for internal management of contract accounts. This allows time after the Contract Final Completion Date for processing the final Requisition for Payment. The Contract Expiration Date does not directly relate to any contract obligation of the Contractor.

1.22 *Contract Final Completion Date*: Point of time 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.

1.23 *Contract Price*: The dollar amount of the construction contract, also called *Contract Sum*.

1.24 *Contract Time*: The designated duration of time to execute the Work of the contract, with a specific date for completion.

1.25 *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.

1.26 *Consultant*: The Architect or Engineer acting as Professional-of-Record for the Project. The Consultant is responsible for the design of the Project.

1.27 *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.

1.28 *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.

1.29 *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.

1.30 *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.

1.31 *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.

1.32 *Owner’s Representative*: The individual or entity contracted by the Owner to be an advisor and information conduit regarding the Project.

1.33 *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.

1.34 *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.

1.35 *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.

1.36 *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.

1.37 *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.

1.38 *Proposal Request (PR)*: An Owner's written request to the Contractor for a Change Order Proposal.

1.39 *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.

1.40 *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 the Work.

1.41 *Request For Proposal (RFP)*: An Owner's written request to the Contractor for a Change Order Proposal.

1.42 *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.*

1.43 *Responsive and Responsible Bidder*: A bidder who complies, when submitting a bid on a given project, with the following *responsive* standards, as required by the Bid Documents:
submits specific qualifications to bid the project, if required;
attends mandatory pre-bid conferences, if required;
submits a bid prior to the close of the bid period;
submits a complete bid form;
submits a bid without indications of intent contrary to the stated requirements;
submits other materials and information, such as bid security, as required;
and, meets the following minimums regarding these *responsible* standards:
sustains a satisfactory record of project performance;
maintains a permanent place of business in a known physical location;
possesses the financial means for short- and long-term operations;
possesses the appropriate technical experience and capabilities;
employs adequate personnel and subcontractor resources;

maintains the equipment needed to perform the work;
complies with the proposed implementation schedule;
complies with the insurance and bonding requirements;
provides post-construction warranty coverage;
and other criteria which can be considered relevant to the contract.

1.44 *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.)

1.45 *Sample*: A physical example provided by the Contractor which illustrates materials, equipment or workmanship and establishes standards by which the Work will be judged.

1.46 *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.

1.47 *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*.

1.48 *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.

1.49 *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.

1.50 *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.

1.51 *Substantial Completion Date*: Point of time 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.

1.52 *Superintendent*: The representative of the Contractor on the job site, authorized by the Contractor to receive and fulfill instructions from the Consultant.

1.53 *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.

1.54 *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.

00 72 13
General Conditions

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00 72 13
General Conditions

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

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.

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.

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.

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

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,

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.

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.

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.

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.

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.

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

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.

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

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

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

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

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.

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.

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.

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.

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

ISSUED FOR

MAINE STATE PRISON
GATEHOUSE IMPROVEMENT PROJECT

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

CONSTRUCTION
28 May 2026

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

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

SECTION 01 35 29 — SECURITY REQUIREMENTS FOR WORK IN AN OCCUPIED CORRECTIONAL FACILITY

CONTRACTOR SECURITY, ACCESS CONTROL, AND WORK PRACTICES

PART 1 — GENERAL

1.1 Summary

This section describes the **security procedures, restrictions, and coordination requirements** for all construction activities performed within an **occupied prison, jail, or detention facility**, including:

- Contractor access and identification
- Tool, equipment, and material control
- Escort requirements
- Work sequencing and restricted-area protocols
- Communication and coordination with correctional staff
- Emergency procedures

1.2 References

- Facility Security Policies and Procedures Manual
- OSHA 29 CFR 1926 — Safety and Health Regulations
- NFPA 241 — Safeguarding Construction, Alteration, and Demolition Operations
- Local authority requirements for correctional operations

1.3 Submittals

- **Security Plan** describing:
    - Personnel list and background checks
    - Tool and equipment inventory
    - Daily access procedures

  - Proposed work hours and sequencing
- **Emergency Contact List**
- **Daily Tool Control Log**
- **Material Delivery and Removal Plan**

1.4 Quality Assurance

- All contractor personnel must pass facility background checks
- All workers must attend a **mandatory security orientation**
- Contractor shall comply with all directives issued by correctional officers
- Work may be stopped at any time for security reasons

1.5 Coordination

- Coordinate daily access with the Warden or designated Facility Representative
- Provide 48-hour notice for work requiring escorts or inmate movement
- Maintain communication with correctional staff at all times

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PART 2 — PRODUCTS

2.1 Identification Materials

- Contractor badges issued by the facility
- High-visibility vests or clothing as required
- Tool tags, tool check-in/out logs, and serialized equipment labels

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2.2 Temporary Barriers and Protection

- Secure partitions, dust walls, and barricades
- Lockable storage boxes for tools and materials
- Temporary security screens or grilles where required

2.3 Communication Equipment

- Radios or communication devices approved by the facility
- No personal cell phones unless specifically authorized

2.4 Prohibited Items

The following items shall **not** be brought into the facility unless explicitly approved:

- Weapons, knives, or sharp tools not required for the day's work
- Tobacco, alcohol, or controlled substances
- Cameras, recording devices, or unapproved electronics
- Personal bags, backpacks, or containers

PART 3 — EXECUTION

3.1 Access Control

- All personnel shall enter and exit through designated security checkpoints
- All tools, equipment, and materials shall be inventoried daily
- No item may be left unattended or unsecured
- Contractor shall immediately report missing tools or materials

3.2 Work Restrictions

- Workers shall remain in approved areas only
- No interaction with inmates except as unavoidable for safety
- No passing of materials, notes, or objects to inmates
- No photography unless authorized in writing

3.3 Escort Requirements

- Contractor personnel shall be escorted where required by facility policy
- Escorts may delay work; contractor shall plan accordingly
- Escorts have authority to stop work for security reasons

3.4 Emergency Procedures

- Contractor shall follow all facility emergency protocols
- In the event of a lockdown:
    - Stop work immediately
    - Secure tools and equipment
    - Remain in place until released by correctional staff

3.5 Daily Close-Out

- Remove all debris and materials from the work area
- Secure all tools in locked storage or remove from facility
- Conduct a final tool count and sign-off with correctional staff

SECTION 02 41 13 — SELECTIVE BUILDING DEMOLITION

PART 1 — GENERAL

1.1 Summary

Provide all labor, materials, equipment, and supervision required to perform **selective demolition**, including:

- Removal of designated interior and/or exterior building components
- Protection of existing construction to remain
- Cutting, patching, and preparation for new work
- Proper disposal and recycling of demolished materials
- Coordination with structural, mechanical, electrical, and architectural requirements
- There may be existing and active stormwater, wastewater, water, and other facilities on site as indicated on the Drawings. It is essential that these facilities, when encountered, remain intact and in service during the proposed demolition. Consequently, the Contractor shall be responsible for the protection of these facilities and shall diligently direct all his activities toward maintaining continuous operation of the existing facilities and minimizing operational inconvenience.
- The Contractor shall examine the various Drawings, visit the site, determine the extent of the Work, the extent of work affected therein, and all conditions under which he is required to perform the various operations

1.2 References

- OSHA 29 CFR 1926 — Construction Safety and Health Regulations
- ANSI A10.6 — Safety Requirements for Demolition Operations
- NFPA 241 — Safeguarding Construction, Alteration, and Demolition Operations
- Local and state environmental regulations for debris handling and disposal

1.3 Submittals

- **Notifications** required by authorities having jurisdiction
- **Photographic documentation** of existing conditions prior to demolition

1.4 Quality Assurance

- Contractor shall notify Dig Safe www.digsafe.com prior to commencing any work.
- Permits and Licenses: The Contractor shall obtain all special permits and licenses and give all notices required for the performance and completion of the structure demolition and removal work, hauling, and disposal of debris.

- Notices: Contractor shall issue written notices of planned demolition to companies or local authorities owning utility conduit, wires, or pipes running to or through the project site. Copies of said notices shall be submitted to the Owner.
- Comply with all safety regulations and permitting requirements
- Perform pre-demolition walk-through with Owner and Architect

1.5 Site Conditions

- Verify existing conditions prior to demolition
- Locate and protect utilities; coordinate shutdowns as required
- Protect adjacent finishes, equipment, and occupied areas
- Prior to demolition, the Contractor shall obtain written verification from the utility owner(s) that the existing utilities, including stormwater, wastewater, and/or water facilities, are not operational and are ready for demolition.

- The Owner assumes no responsibility for the actual condition of the structures to be demolished or relocated.

- Conditions existing at the time of inspection for bidding purposes will be maintained by the Owner insofar as practicable. However, variations within each site may occur prior to the start of demolition work.

- Certain information regarding the reputed presence, size, character and location of existing underground structures, pipes and conduit has been shown on the Drawings. There is no certainty of the accuracy of this information, and the location of underground structures shown may be inaccurate and other obstructions than those shown may be encountered. The Contractor hereby distinctly agrees that the Owner is not responsible for the correctness or sufficiency of the information given; that in no event is this information to be considered as a part of the Contract; that he shall have no claim for delay or extra compensation on account of incorrectness of information regarding obstructions either revealed or not revealed by the Drawings; and that he shall have no claim for relief from

any obligation or responsibility under this Contract in case the location, size, or character of any pipe or other underground structure is not as indicated on the Drawings, or in case any pipe or other underground structure is encountered that is not shown on the Drawings.

1.6 RESTRICTIONS

- No building, tank or structure, or any part thereof, shall be demolished until an application has been filed by the Contractor with the Building Department Inspector and a permit issued if a permit is required. The fee for this permit shall be the Contractor's responsibility. Demolition shall be in accordance with applicable provisions of the Building Code of the State.

- No explosives shall be used at any time during the demolition. No burning of combustible material will be allowed.

1.7 DISPOSAL OF MATERIAL

- All materials not retained by the Owner shall become the Contractor's property and shall be removed off-site.

1.8 TRAFFIC AND ACCESS

- Conduct work to ensure minimum interference with on-site and off-site roads, streets, sidewalks, and occupied or used facilities.

1.9 PROTECTION

- Conduct operations to minimize damage by falling debris or other causes to adjacent buildings, structures, roadways, other facilities, and persons. Provide interior and exterior shoring, bracing, or support to prevent movement or settlement or collapse of structures to be demolished and adjacent facilities to remain.

1.10 DAMAGE

- Promptly repair damage caused to adjacent facilities by demolition operations as directed by the Owner at no cost to the Owner.

1.11 UTILITIES

- Maintain existing utilities as directed by the Owner to remain in service and protect against damage during demolition operations.

- Do not interrupt existing utilities serving occupied or operational facilities, except when authorized by Owner. Provide temporary services during interruptions to existing utilities as acceptable to the County.

- The Contractor shall cooperate with the Owner to shut off utilities serving structures of the existing facilities as required by demolition operations.

- The Contractor shall be solely responsible for making all necessary arrangements and for performing any necessary work involved in connection with the interruption of all public and private utilities or services.

- All utilities being abandoned shall be terminated at the service mains in conformance with the requirement of the utility companies or the municipality owning or controlling them

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PART 2 — PRODUCTS

2.1 Materials

- Temporary barriers, dust partitions, and protection materials
- Plywood, poly sheeting, and floor protection
- Shoring and bracing materials as required

2.2 Equipment

- Saw-cutting tools, hand tools, and demolition equipment appropriate for selective removal
- HEPA vacuums and dust-control systems
- Lifts, scaffolding, and temporary supports

2.3 Protection Materials

- Fire-retardant poly sheeting
- Temporary enclosures and negative-air systems (if required)
- Protective coverings for floors, walls, and equipment

PART 3 — EXECUTION

3.1 Examination

- Verify areas to be demolished are clearly identified
- Confirm structural stability before removing any load-bearing elements

- Identify hazardous materials; do not disturb until properly abated

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3.2 Preparation

- Install dust partitions and protection
- Shut down and cap utilities serving areas to be demolished
- Provide temporary shoring where required

3.3 Demolition

- Perform demolition in a controlled, orderly manner
- Saw-cut edges cleanly where new work will abut existing
- Remove debris promptly to maintain safe working conditions
- Avoid damage to construction that is to remain
- Coordinate with other trades to avoid disruption of active systems

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3.4 Field Quality Control

- Inspect for unintended damage to adjacent construction
- Verify complete removal of designated materials
- Ensure surfaces are clean and ready for new work

3.5 Cleaning & Disposal

- Remove debris daily; keep site clean and safe
- Recycle materials where possible
- Dispose of waste legally and responsibly
- Restore areas affected by demolition to condition suitable for new construction

SECTION 03 20 00 — CONCRETE REINFORCING (REBAR)

PART 1 — GENERAL

1.1 Summary

Provide all labor, materials, equipment, and accessories required for furnishing and installing **reinforcing steel bars (rebar)** for cast-in-place concrete.

1.2 References

- ASTM A615 — Deformed and Plain Carbon-Steel Bars for Concrete Reinforcement
- ASTM A706 — Low-Alloy Steel Deformed Bars for Weldable Reinforcement
- ASTM A767 — Zinc-Coated (Galvanized) Steel Bars
- ASTM A775 — Epoxy-Coated Reinforcing Bars
- ACI 318 — Building Code Requirements for Structural Concrete
- CRSI Manual of Standard Practice

1.3 Submittals

- Mill certificates for each bar size and heat number
- Shop drawings showing bar sizes, bends, spacing, laps, and placement
- Coating certifications (if epoxy or galvanized)
- Manufacturer data for chairs, supports, and accessories

1.4 Quality Assurance

- Reinforcing steel shall be produced by a mill certified under applicable ASTM standards
- Fabricator shall have minimum 5 years' experience
- Welding of rebar only permitted when specified and only on ASTM A706 bars

1.5 Delivery, Storage, and Handling

- Deliver rebar bundled and tagged with bar size, grade, and heat number
- Store off the ground to prevent contamination
- Protect epoxy-coated bars from damage and UV exposure

PART 2 — PRODUCTS

2.1 Reinforcing Bars

- **Material:** ASTM A615 Grade 60 (typical)
- **Alternate (if weldable bars required):** ASTM A706 Grade 60
- **Sizes:** #3 through #11 as shown on drawings
- **Deformation pattern:** per ASTM requirements

2.2 Coatings (If Required)

- **Uncoated (black) steel** unless otherwise noted
- **Epoxy-coated bars:** ASTM A775
- **Galvanized bars:** ASTM A767
- **Stainless steel bars:** only if specified for corrosive environments

2.3 Accessories

- Bar supports: plastic-tipped or epoxy-coated where required
- Chairs and spacers sized to maintain cover
- Tie wire: black annealed or epoxy-coated for coated bars
- Mechanical couplers: ASTM A1034, type as specified

2.4 Fabrication

- Cut, bend, and fabricate per CRSI Manual of Standard Practice
- No heating of bars for bending unless permitted by engineer
- Maintain bend radii per ACI and ASTM requirements

PART 3 — EXECUTION

3.1 Examination

- Verify formwork, embedded items, and dimensions before placing rebar
- Notify engineer of conflicts or deviations

3.2 Installation

- Place reinforcement per ACI 318 and CRSI standards
- Secure bars to prevent displacement during concrete placement
- Maintain required concrete cover:
    - Slabs on grade: 3" typical
    - Walls: 1½" to 2"
    - Beams/columns: 1½" to 2"
- Lap splices per structural drawings
- Do not tack-weld bars unless approved and bars are ASTM A706

3.3 Field Quality Control

- Inspect bar size, spacing, cover, and placement
- Replace damaged epoxy coating with patch material
- Verify coupler installation where used

3.4 Cleaning

- Remove mud, oil, loose rust, and contaminants before concrete placement
- Light surface rust is acceptable and does not require removal

SECTION 03 30 00 — CAST-IN-PLACE CONCRETE

CONCRETE FOOTINGS, SLABS-ON-GRADE, AND HEAVY-DUTY TRUCK SLABS

PART 1 — GENERAL

1.1 Summary

Work includes furnishing and placing cast-in-place concrete for:

- Spread footings, strip footings, and grade beams
- Slabs-on-grade for interior and exterior use
- **Heavy-duty slabs for truck traffic and equipment loads**
- Reinforcement, vapor barriers, and accessories
- Finishing, curing, and protection

1.2 References

- ACI 301 — Specifications for Structural Concrete
- ACI 318 — Building Code Requirements for Structural Concrete
- ACI 302 — Guide for Concrete Floor and Slab Construction
- ACI 330 — Guide for Concrete Pavements (truck traffic)
- ASTM C94 — Ready-Mixed Concrete
- ASTM C150 — Portland Cement
- ASTM A615 — Reinforcing Steel

1.3 Submittals

- Concrete mix designs for:
    - Standard structural concrete
    - **Heavy-duty truck-traffic concrete**
- Reinforcement shop drawings (if required)
- Vapor barrier product data
- Curing compound data sheets

- Concrete test reports

1.4 Quality Assurance

- Concrete supplier certified per ASTM C94
- Testing by independent laboratory
- Finishing crews experienced with commercial and heavy-duty slabs
- Pre-placement meeting required for slabs over 5,000 sq ft

1.5 Project Conditions

- Do not place concrete on frozen subgrade
- Maintain temperature and moisture conditions per ACI 305/306
- Protect adjacent work from splatter and vibration

PART 2 — PRODUCTS

2.1 Concrete Materials

- Cement: ASTM C150 Type I or II
- Aggregates: ASTM C33, well-graded
- Water: Clean, potable
- Admixtures: ASTM C494, non-chloride accelerators, water reducers, superplasticizers
- Air Entraining: ASTM C260 (required for exterior slabs)

2.2 Concrete Mixes

A. Standard Footings & Foundations

- Strength: **3,000–4,000 psi @ 28 days**
- Slump: **4" ± 1"**
- Air content: **2–4% interior**, **4–6% exterior**
- Water-cement ratio: **0.50 max**

B. Standard Interior Slabs-on-Grade

- Strength: **4,000 psi @ 28 days**
- Slump: **4" ± 1"**
- Air content: **2–4%**
- Water-cement ratio: **0.45 max**
- Optional: Fiber reinforcement (micro or macro)

****C. Heavy-Duty Truck-Traffic Concrete**

Used for:

- Loading docks
- Dumpster pads
- Truck aprons
- Fire lanes
- Exterior drive-through lanes
- Warehouse forklift aisles

Mix Requirements:

- Strength: **5,000–6,000 psi @ 28 days**
- Slump: **4" ± 1"** (or 6" with superplasticizer)
- Air content: **5–7%** (freeze-thaw durability)
- Water-cement ratio: **0.40 max**
- Cementitious content: **Minimum 600 lb/yd^3**
- Coarse aggregate: **¾" or 1" stone** for improved load transfer
- Optional:
    - **Steel fibers** (50–75 lb/yd^3)
    - **Macro-synthetic fibers** (4–7 lb/yd^3)

- **Dowels** at construction joints

Thickness (typical):

- **8" minimum** for truck aprons
- **10"–12"** for dumpster pads or heavy truck turning areas

2.3 Reinforcement

- Reinforcing bars: ASTM A615 Grade 60
- Welded wire reinforcement: ASTM A1064
- Supports: Plastic or galvanized bar chairs

2.4 Vapor Barrier (Under Slabs)

- 10–15 mil polyethylene or reinforced vapor retarder
- ASTM E1745 Class A

2.5 Accessories

- Keyway formers
- Dowel bars and sleeves
- Expansion joint material (non-bituminous)
- Edge forms and screed guides

2.6 Curing Materials

- Liquid membrane curing compound: ASTM C309
- Wet-cure blankets for heavy-duty slabs

PART 3 — EXECUTION

3.1 Examination

- Verify subgrade is compacted and approved
- Confirm elevations, dimensions, and reinforcement placement
- Ensure vapor barrier is intact and taped at seams

3.2 Formwork

- Construct forms to true lines and grades
- Coat forms with release agent
- Brace to prevent movement during placement

3.3 Reinforcement

- Place reinforcement per drawings
- Maintain required cover
- Secure bars to prevent displacement

3.4 Concrete Placement

- Place concrete continuously to avoid cold joints
- Consolidate using internal vibrators
- Do not add water at the jobsite
- Screed slabs to uniform plane

3.5 Slab Finishing

- Initial strike-off and bull-floating
- Wait for bleed water to dissipate
- Apply trowel or broom finish as specified

Heavy-Duty Slabs:

- Avoid over-troweling air-entrained mixes

- Use straightedge to maintain flatness
- Apply broom finish for exterior truck areas

3.6 Curing

- Begin curing immediately after finishing
- Apply curing compound or wet-cure for minimum 7 days
- Protect from rapid drying, freezing, and traffic

3.7 Joints

- Install control joints at spacing shown on drawings
- Sawcut joints within 6–12 hours of placement
- Install expansion joints at columns, walls, and fixed elements

Heavy-Duty Slabs:

- Use **doweled joints** for load transfer
- Joint spacing: **10–12 ft max**

3.8 Field Quality Control

- Take cylinders per ASTM C31
- Perform slump, air, and temperature tests
- Replace concrete that fails to meet strength or quality requirements

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3.9 Protection

- Protect slabs from early loading
- Prevent damage from equipment, rebar storage, or formwork removal
- Repair honeycombing or surface defects

SECTION 03 62 13 — NON-SHRINK GROUT (SIKAGROUT® 212)

*Based on Sika's cementitious grout product family *

PART 1 — GENERAL

1.1 Summary

Provide **SikaGrout® 212**, a non-shrink, non-metallic, cementitious precision grout for structural baseplates, equipment pads, precast elements, and general void filling.

1.2 References

- ASTM C1107 — Packaged Dry, Hydraulic-Cement Grout (Non-Shrink)
- ASTM C109 — Compressive Strength
- ASTM C191 — Setting Time
- ACI 351.1R — Grouting Between Foundations and Bases
- Manufacturer's published Product Data Sheet (PDS)

1.3 Submittals

- Product Data Sheet for SikaGrout® 212
- Safety Data Sheet
- Installation instructions
- Field test reports (if required)

1.4 Quality Assurance

- Manufacturer: Sika Corporation
- Installer experienced with cementitious precision grouts
- Pre-installation meeting if required

1.5 Delivery, Storage, and Handling

- Deliver in original, unopened Sika packaging
- Store dry, elevated, and protected from moisture
- Discard any damaged or hardened material

PART 2 — PRODUCTS

2.1 Manufacturer

Sika Corporation
Cementitious Grouts Product Line

2.2 Product

SikaGrout® 212

- Non-shrink, non-metallic, cement-based precision grout
- Suitable for dry-pack, plastic, or flowable consistency
- Interior and exterior use

2.3 Performance Requirements

(Values vary slightly by batch and temperature; use PDS for final numbers.)

- **Complies with ASTM C1107**
- **Non-shrink** in plastic and hardened states
- **Compressive Strength (typical):**
  - 1 day: ~3,000 psi
  - 7 days: ~6,000 psi
  - 28 days: ~8,000–9,000 psi
- **Working Time:** approx. 20–30 minutes depending on temperature
- **Flowability:** adjustable with water within manufacturer limits
- **Non-metallic, non-corrosive**

2.4 Accessories

- Clean potable water
- Formwork suitable for grout containment
- Bonding agents only if required by manufacturer (typically not needed)

PART 3 — EXECUTION

3.1 Examination

- Verify substrate is sound, clean, and properly prepared
- Remove dust, laitance, oil, and loose material
- Pre-wet concrete to SSD (saturated surface dry)

3.2 Mixing

- Mix SikaGrout® 212 using a low-speed drill or mortar mixer
- Add water per manufacturer's instructions
- Mix until smooth and lump-free
- Do not over-water or re-temper

3.3 Installation

- Place immediately after mixing
- Use appropriate placement method (pour, pump, or dry-pack)
- Ensure continuous flow to avoid air entrapment
- Maintain head pressure where required
- Finish exposed surfaces neatly

3.4 Curing

- Cure per manufacturer recommendations
- Protect from rapid moisture loss, vibration, and freezing

3.5 Field Quality Control

- Perform compressive strength tests if required
- Inspect for voids, shrinkage, or improper consolidation

SECTION 05 05 19 — ANCHOR BOLTS

PART 1 — GENERAL

1.1 Summary

Provide cast-in-place **L-hook anchor bolts** including nuts, washers, templates, and installation accessories for securing structural and miscellaneous steel, wood plates, and equipment.

1.2 References

- ASTM A307 — Carbon Steel Bolts and Studs
- ASTM F1554 — Anchor Bolts (if project requires higher grades)
- ASTM A153 — Hot-Dip Zinc Coating
- AISC 360 — Specification for Structural Steel Buildings
- ACI 318 — Anchoring to Concrete
- Manufacturer’s product data

1.3 Submittals

- Product data for anchor bolts, nuts, and washers
- Mill certifications for steel grade
- Galvanizing certification
- Shop drawings showing bolt size, projection, embedment, and layout
- Template drawings for bolt placement

1.4 Quality Assurance

- Manufacturer with minimum 5 years’ experience
- Installer experienced with cast-in-place anchor bolt installation
- All bolts of same size and grade from a single manufacturer

1.5 Delivery, Storage, and Handling

- Deliver bolts bundled and tagged with size, grade, and length
- Protect galvanized surfaces from abrasion

- Store off ground and keep dry before installation

PART 2 — PRODUCTS

2.1 Manufacturer

- **Approved Vendor** L-Hook Anchor Bolts (as shown on Grainger product page) grainger.com
- Or approved equal meeting this specification

2.2 Anchor Bolts

- **Type:** L-hook anchor bolt
- **Diameter:** 1 inch
- **Body Length:** 36 inches (or as scheduled)
- **Thread Size:** 1"-8 UNC
- **Thread Length:** 6-1/4 inches
- **Hook Length:** 4 inches
- **Material:** Carbon steel, **ASTM A307 Grade 55** grainger.com
- **Finish: Hot-dip galvanized** per ASTM A153
- **Includes:** Heavy hex nut and washer (as provided by manufacturer) grainger.com

2.3 Accessories

- Heavy hex nuts: ASTM A563
- Washers: ASTM F436
- Templates for bolt alignment
- Protective caps (optional)

2.4 Fabrication

- L-bend formed to manufacturer standards
- Threads rolled or cut per ANSI/ASME B1.1
- Galvanizing applied after fabrication

- No field bending permitted

PART 3 — EXECUTION

3.1 Examination

- Verify formwork, reinforcement, and embedded items before bolt placement
- Confirm bolt locations, projection, and alignment per structural drawings

3.2 Installation

- Secure bolts using templates to maintain position during concrete placement
- Maintain required embedment depth and hook orientation
- Protect threads during concrete placement
- Do not disturb bolts after concrete begins to set

3.3 Field Quality Control

- Verify bolt size, grade, finish, and projection
- Inspect for damage to galvanizing; repair per ASTM A780
- Confirm alignment and spacing before steel erection

3.4 Protection

- Keep threads clean and protected until nut installation
- Replace bolts damaged or displaced during construction

SECTION 05 12 00 — STRUCTURAL STEEL

PART 1 — GENERAL

1.1 Summary

Provide **structural steel framing**, including:

- Wide-flange beams, channels, angles, and plates
- Columns, girders, bracing, and miscellaneous structural members
- Base plates, stiffeners, and connection hardware
- Shop priming and field touch-up
- All anchors, bolts, and accessories required for a complete structural steel system

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1.2 References

- **AISC 303** — Code of Standard Practice
- **AISC 360** — Specification for Structural Steel Buildings
- **AISC 341** — Seismic Provisions (if applicable)
- **ASTM A36** — Carbon Structural Steel
- **ASTM A572** — High-Strength Low-Alloy Steel
- **ASTM A992** — Structural Steel Shapes
- **ASTM A325 / A490** — High-Strength Bolts
- **AWS D1.1** — Structural Welding Code

1.3 Submittals

- Mill certifications for steel materials
- Shop drawings showing:
    - Member sizes and profiles
    - Connection details

  - Base plate and anchor bolt layouts
  - Camber, stiffeners, and special fabrication
- Welding procedures and welder qualifications
- Primer data sheets

1.4 Quality Assurance

- Fabricator certified to **AISC Certified Building Fabricator** (Standard or Advanced)
- Welders certified per **AWS D1.1**
- Bolting procedures per **RCSC Specification**

1.5 Delivery, Storage, and Handling

- Deliver steel members clearly tagged and bundled
- Store off the ground, protected from standing water
- Replace damaged or distorted members

PART 2 — PRODUCTS

2.1 Structural Steel Materials

- **Wide-flange shapes:** ASTM A992
- **Plates and bars:** ASTM A36 or A572 Grade 50
- **HSS tubing:** ASTM A500 Grade B or C
- **Angles and channels:** ASTM A36 or A572 Grade 50

2.2 Bolts, Nuts, and Washers

- High-strength bolts: ASTM A325 or A490
- Nuts: ASTM A563
- Washers: ASTM F436

- Finish: Plain or galvanized as indicated

2.3 Welding Materials

- Electrodes and filler metals per **AWS D1.1**
- Match strength of base metal

2.4 Shop Fabrication

- Fabricate per **AISC 303** and **AISC 360**
- Provide:
    - Coping, beveling, and drilling
    - Stiffeners, shear tabs, and connection plates
    - Camber where indicated
- Remove mill scale, oil, and rust before priming

2.5 Shop Primer

- Rust-inhibitive primer suitable for structural steel
- Color: **Red oxide or gray**, unless otherwise noted
- Do not prime surfaces to be field welded or fireproofed

PART 3 — EXECUTION

3.1 Examination

- Verify foundations, anchor bolts, and bearing surfaces are correct
- Confirm dimensions and elevations prior to erection
- Report discrepancies before proceeding

3.2 Installation

- Erect steel per **AISC Code of Standard Practice**
- Plumb, level, and align all members
- Tighten bolts per **RCSC** requirements (snug-tight or slip-critical as specified)
- Perform field welding per **AWS D1.1**
- Provide temporary bracing until structure is stable

3.3 Field Quality Control

- Inspect bolted and welded connections
- Verify member alignment and camber
- Touch up damaged primer with compatible coating

3.4 Cleaning & Protection

- Remove debris, weld slag, and temporary bracing
- Protect steel from damage during remaining construction
- Coordinate with fireproofing or intumescent coating trades

SECTION 05 50 00 — METAL FABRICATIONS

ORNAMENTAL PAINTED STEEL ANGLES AND PLATES

PART 1 — GENERAL

1.1 Summary

Provide **ornamental painted steel angles and plates**, including:

- Exposed architectural steel angles
- Exposed architectural steel plates
- Decorative steel components integrated into walls, ceilings, millwork, or other assemblies
- All anchors, fasteners, and accessories required for a complete installation

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1.2 References

- ASTM A36 — Carbon Structural Steel
- ASTM A123 — Hot-Dip Galvanized Coatings (if galvanized prior to painting)
- ASTM A153 — Zinc Coating on Iron and Steel Hardware
- SSPC-SP Standards — Surface Preparation for Steel
- AWS D1.1 — Structural Welding Code, Steel

1.3 Submittals

- Product data for steel materials, coatings, and accessories
- Shop drawings showing:
    - Profiles, thicknesses, and dimensions
    - Welds, joints, and ornamental features
    - Locations and installation details
- Finish samples showing paint color and sheen

- Welding certifications (if applicable)

1.4 Quality Assurance

- Fabricator experienced in architectural and ornamental steel work
- Welders certified in accordance with AWS D1.1
- All exposed surfaces shall be free of dents, warping, or fabrication defects

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1.5 Delivery, Storage, and Handling

- Deliver steel components wrapped or protected from abrasion
- Store indoors or under cover, elevated from ground
- Protect from moisture, corrosion, and construction damage

PART 2 — PRODUCTS

2.1 Materials

A. Steel Angles

- Material: **ASTM A36** or equal
- Thickness and leg sizes: **As shown on drawings**
- Edges: Clean, square-cut, deburred

B. Steel Plates

- Material: **ASTM A36** or equal
- Thickness: **As shown on drawings**
- Shapes: Flat, bent, or formed as detailed
- Edges: Smooth-ground where exposed

2.2 Fabrication

A. General

- Fabricate to profiles and dimensions indicated
- Provide clean, uniform ornamental appearance
- Grind welds smooth where exposed
- Remove mill scale, oil, and contaminants prior to finishing

B. Welding

- Conform to AWS D1.1
- Welds continuous unless noted otherwise
- Exposed welds ground smooth and blended

C. Fasteners

- Concealed where possible
- Exposed fasteners to match finish of steel
- Stainless steel fasteners for exterior or moisture-prone areas

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2.3 Finish

A. Surface Preparation

- SSPC-SP 6 Commercial Blast Cleaning minimum
- SSPC-SP 3 Power Tool Cleaning acceptable for interior concealed surfaces

B. Coating System

- **Factory-applied rust-inhibitive primer**
- Field-applied topcoat per Section 09 90 00
- **Color: As selected by Architect**
- Sheen: Matte, satin, or semi-gloss as specified

PART 3 — EXECUTION

3.1 Examination

- Verify substrates and support conditions are ready

- Confirm dimensions and alignment with architectural drawings
- Report discrepancies before installation

3.2 Installation

- Install steel angles and plates plumb, level, and true to line
- Provide shims and blocking as required for alignment
- Protect adjacent finishes during installation
- Ensure ornamental components are visually consistent and free of defects

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3.3 Field Quality Control

- Inspect finish for scratches, chips, or fabrication marks
- Verify welds and joints are smooth and uniform
- Confirm alignment and spacing match design intent

3.4 Cleaning & Protection

- Clean surfaces with manufacturer-approved cleaners
- Touch up primer and paint where damaged
- Protect installed steel from construction traffic and debris

Section 05 51 00 — Metal Stairs and Ladders

PART 1 — GENERAL

1.1 Summary

- Provide a permanently mounted **wall-mounted fixed ladder** fabricated from painted carbon steel, including rails, rungs, wall brackets, safety cage (if required), and all accessories.

1.2 References

- OSHA 29 CFR 1910.23 – Ladders
- ANSI A14.3 – Fixed Ladders
- ASTM A36/A36M – Carbon Structural Steel
- SSPC-SP 6 – Commercial Blast Cleaning
- SSPC-PA 1 – Shop, Field, and Maintenance Painting

1.3 Submittals

- Product data and cut sheets
- Shop drawings showing ladder height, **wall-mount bracket spacing**, standoff dimension, and top-exit configuration
- Paint system data sheets
- Certificates of OSHA/ANSI compliance

1.4 Quality Assurance

- Manufacturer with minimum 5 years' experience
- Welders certified per AWS D1.1
- Paint applicators qualified per SSPC standards

1.5 Delivery, Storage, and Handling

- Protect painted surfaces from abrasion
- Store off ground and covered until installation

PART 2 — PRODUCTS

2.1 Manufacturers

- Cotterman (Series F wall-mount)
- Approved equal

2.2 Materials

Steel Components:

- Rails: ASTM A36 steel bar or formed channel
- Rungs: 3/4" solid steel bar, serrated or knurled
- Wall brackets: ASTM A36 steel plate or angle, sized for required standoff

2.3 Finish — Painted Steel

- **Surface Prep:** SSPC-SP 6 Commercial Blast Cleaning
- **Primer:** Rust-inhibitive industrial primer, 2–3 mil DFT
- **Topcoat:** Industrial enamel or epoxy, 2–4 mil DFT
- **Color:** Safety yellow or as specified

2.4 Dimensions

- Rung spacing: 12" on center
- Clear rung width: 18" minimum (20–22" typical)
- Ladder width: approx. 16–24" overall
- Load rating: 300 lb minimum
- Ladder pitch: 90° vertical
- **Wall standoff:** Typically 7"–12" from wall to rung centerline (confirm per manufacturer)

2.5 Accessories

- **Wall-mount brackets** spaced per manufacturer (usually 4–6 ft on center)
- **Landing platforms** for climbs over 30 ft continuous

2.6 Fabrication

- Fully welded construction

- Rungs welded or mechanically attached to rails
- Wall brackets welded or bolted to rails
- All welds ground smooth and coated after fabrication

PART 3 — EXECUTION

3.1 Examination

- Verify wall surface is plumb, structurally adequate, and capable of supporting ladder loads
- Confirm bracket mounting locations are free of obstructions

3.2 Installation

- Install ladder plumb and level
- Anchor wall brackets using hardware appropriate for substrate (masonry, concrete, or steel)
- Maintain uniform standoff distance
- Install safety cage or fall-arrest system as required
- Touch-up paint any field welds or abrasions

3.3 Field Quality Control

- Confirm rung spacing, alignment, and anchorage
- Verify top-exit clearance and handhold configuration

3.4 Cleaning & Protection

- Clean surfaces after installation
- Protect ladder from damage until project completion

SECTION 05 51 00 — METAL FABRICATIONS

GALVANIZED PERFORATED METAL PANELS (3/32" THICK) WITH PEG-BOARD ACCESSORIES

PART 1 — GENERAL

1.1 Summary

Provide **galvanized perforated metal panels** and **peg-board-style accessories**, including:

- 3/32" thick galvanized steel perforated panels
- 1/4" diameter round holes on 1" straight centers
- Hooks, brackets, shelves, and accessory hardware for hanging equipment
- All required supports, fasteners, and trim
- Fabrication and installation for architectural or organizational use

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1.2 References

- ASTM A653 — Steel Sheet, Zinc-Coated (Galvanized)
- ASTM A123 — Hot-Dip Galvanized Coatings
- ASTM A480 — Flat-Rolled Metal Requirements
- NAAMM AMP 500 Series — Metal Fabrication Standards

1.3 Submittals

- Product data for perforated panels and accessories
- Shop drawings showing:
    - Panel sizes and layout
    - Hole pattern orientation
    - Accessory locations and load requirements
- Samples of panel material and accessory types

- Galvanizing certification

1.4 Quality Assurance

- Fabricator experienced in perforated metal and accessory systems
- All panels free of burrs, sharp edges, dents, or deformation
- Accessories compatible with 1/4" holes on 1" centers

1.5 Delivery, Storage, and Handling

- Deliver panels flat and protected from bending
- Store indoors or under cover
- Replace damaged or deformed components

PART 2 — PRODUCTS

2.1 Manufacturer

- McNICHOLS® perforated metal (based on your active tab)
- Peg-board accessories: Commercial steel hook and bracket systems compatible with 1/4" holes
- Or approved equal

2.2 Perforated Metal Panels

- Material: **Galvanized steel**, ASTM A653
- Thickness: **3/32" (0.093")**
- Hole Type: **Round**
- Hole Diameter: **1/4"**
- Hole Pattern: **Straight centers**
- Center-to-Center Spacing: **1"**

- Sheet Size: As indicated on drawings
- Open Area: Approx. 5–7%

2.3 Peg-Board Accessories

Provide accessories compatible with **1/4" diameter holes** and **1" spacing**, including:

- Single and double hooks
- Heavy-duty tool hooks
- Angled brackets
- Shelf brackets and support arms
- Bins, trays, and holders
- Magnetic or clip-on accessories (optional)

Material:

- Steel, zinc-plated or galvanized
- Rubber-coated hooks where required to protect equipment

Load Rating:

- Minimum 10 lbs per hook
- Heavier brackets rated per manufacturer

2.4 Fabrication

- Cut panels to sizes shown
- Deburr all edges
- Provide stiffeners or frames as required
- Maintain consistent hole orientation across installation

2.5 Finish

- Factory galvanized finish

- Touch-up for field cuts: Zinc-rich coating per ASTM A780

2.6 Accessories

- Galvanized fasteners
- Edge trim, channels, or frames
- Mounting brackets and concealed supports

PART 3 — EXECUTION

3.1 Examination

- Verify substrate and support conditions
- Confirm layout and accessory locations
- Report discrepancies before installation

3.2 Installation

- Install panels plumb, level, and true
- Maintain consistent spacing between panels
- Fasten using galvanized hardware
- Avoid distortion during fastening
- Orient hole pattern uniformly

Accessory Installation:

- Install hooks, brackets, and shelves only after panels are secured
- Ensure accessories engage fully with perforations
- Distribute loads evenly across panel area
- Do not overload individual perforations

3.3 Field Quality Control

- Inspect for dents, scratches, or irregular hole patterns
- Verify accessories are secure and properly seated
- Touch up all cut edges with zinc-rich coating

3.4 Cleaning & Protection

- Clean surfaces of oil, fingerprints, and debris
- Protect panels and accessories from construction damage
- Remove protective coverings at project closeout

SECTION 05 92 00 — METAL CLEANING AND REPAINTING

RESTORATION OF CAST-IRON FLOOR GRATE

PART 1 — GENERAL

1.1 Summary

Provide all labor, materials, and equipment required to:

- Clean and strip existing coatings from cast-iron floor grates
- Remove rust, scale, and contaminants
- Prepare surfaces for new protective coating
- Apply a complete primer and finish-coat system
- Protect adjacent construction during work

1.2 References

- SSPC-SP 1 — Solvent Cleaning
- SSPC-SP 2 — Hand Tool Cleaning
- SSPC-SP 3 — Power Tool Cleaning
- SSPC-SP 6 — Commercial Blast Cleaning (if permitted)
- SSPC-PA 1 — Shop, Field, and Maintenance Painting
- ASTM D3359 — Adhesion Testing

1.3 Submittals

- Photographs of existing conditions prior to work

1.4 Quality Assurance

- Contractor experienced in metal restoration and repainting
- All coatings from a single manufacturer

- Comply with environmental regulations for dust, debris, and lead-based paint (if present)

1.5 Delivery, Storage, and Handling

- Deliver materials in unopened containers with labels intact
- Store per manufacturer's recommendations
- Protect materials from freezing, moisture, and contamination

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PART 2 — PRODUCTS

2.1 Materials

- Solvent cleaners meeting SSPC-SP 1
- Non-ionic detergents for washing
- Abrasives suitable for cast iron (if blasting is permitted)
- Rust converters (only if approved by Architect)

2.2 Coating System (Cast Iron)

Provide a **high-performance metal coating system** suitable for foot-traffic environments.

A. Primer

- Type: Rust-inhibitive metal primer
- Options:
    - Alkyd metal primer
    - Epoxy primer (for heavy-duty applications)
- DFT: 2–3 mils

B. Finish Coat

- Type: Alkyd enamel, epoxy, or polyurethane depending on durability requirements
- Sheen: As selected by Architect

- DFT: 2–3 mils per coat
- Color: Architect's selection

2.3 Accessories

- Abrasive pads, wire brushes, scrapers
- HEPA vacuums
- Drop cloths and masking materials
- Touch-up paint for field repairs

PART 3 — EXECUTION

3.1 Examination

- Verify grate is structurally sound
- Identify cracks, breaks, or corrosion requiring repair
- Report defects prior to beginning work

3.2 Preparation

A. Cleaning

- Remove oil, grease, and contaminants per SSPC-SP 1
- Wash with detergent and rinse thoroughly

B. Coating Removal

- Remove loose, peeling, or blistered paint by hand or power tools
- Chemical strippers permitted only with Architect approval
- Abrasive blasting to SSPC-SP 6 allowed only if site conditions permit containment

C. Rust Removal

- Remove rust and scale to SSPC-SP 2 or SP 3
- Feather edges of remaining sound paint

D. Surface Conditioning

- Ensure surface is clean, dry, and free of dust prior to priming

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3.3 Application

- Apply primer immediately after surface preparation to prevent flash rusting
- Apply coatings per manufacturer's written instructions
- Maintain required film thickness for each coat
- Ensure uniform color, sheen, and texture
- Allow proper drying and curing between coats

3.4 Field Quality Control

- Inspect for runs, sags, pinholes, and missed areas
- Verify adhesion per ASTM D3359 if required
- Touch up damaged or thin areas

3.5 Cleaning & Protection

- Remove masking and overspray
- Clean adjacent surfaces
- Protect finished coating from foot traffic until fully cured

SECTION 06 05 23 — WOOD SCREWS AND FASTENERS

SIMSPON STRONG-TIE SDWS22 STRUCTURAL WOOD SCREWS

PART 1 — GENERAL

1.1 Summary

Provide **Simpson Strong-Tie SDWS22 structural wood screws** and related accessories for use in:

- Structural wood framing
- Mass timber and CLT assemblies
- Blocking, furring, and general wood-to-wood connections
- Installation of engineered wood components

1.2 References

- ICC-ES ESR-3046 — Evaluation Report for SDWS Timber Screws
- ASTM A153 — Zinc Coating (Hot-Dip) on Iron and Steel Hardware
- ASTM F1575 — Testing Wood Fasteners
- AWC NDS — National Design Specification for Wood Construction

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1.3 Submittals

- Product data for SDWS22 screws
- Manufacturer’s installation instructions
- ICC-ES evaluation report
- Coating and corrosion-resistance documentation

1.4 Quality Assurance

- Fasteners shall be manufactured by **Simpson Strong-Tie**

- Installers shall follow manufacturer's published installation requirements
- All screws shall be listed and approved for structural wood applications

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1.5 Delivery, Storage, and Handling

- Deliver screws in original, unopened containers
- Store dry and protected from moisture
- Replace corroded or damaged fasteners

PART 2 — PRODUCTS

2.1 Manufacturer

Simpson Strong-Tie Company, Inc.
Product: **SDWS22 Structural Wood Screws**
Or approved equal meeting all performance requirements.

2.2 Fasteners

A. SDWS22 Structural Wood Screws

- Type: **SDWS Timber Screw**
- Diameter: **0.220" (22 series)**
- Length: As indicated on drawings (typically 3"–10")
- Head: Large-diameter hex head with built-in washer
- Point: Type-17 point for fast starts and reduced splitting
- Thread: Deep, aggressive thread for structural withdrawal capacity

B. Material & Coating

- Carbon steel
- **Double-Barrier Coating** (equivalent to ASTM A153 Class D hot-dip galvanized performance)
- Suitable for interior and most exterior applications

C. Performance Requirements

- Structural values per ICC-ES ESR-3046
- Withdrawal, shear, and lateral loads per AWC NDS
- Approved for:
    - Sawn lumber
    - Glulam
    - LVL
    - CLT
    - Parallel-strand lumber (PSL)

2.3 Accessories

- Simpson Strong-Tie driver bits
- Washers or bearing plates where required
- Corrosion-resistant hardware for exterior applications

PART 3 — EXECUTION

3.1 Examination

- Verify wood members are properly aligned and prepared
- Confirm moisture content is within acceptable range
- Report damaged or split wood prior to fastening

3.2 Installation

- Install screws per Simpson Strong-Tie published instructions
- Drive screws with impact driver or drill at recommended speed
- Do not over-drive or strip heads
- Install screws perpendicular to wood surface unless otherwise detailed

- Pre-drilling not required except in extremely dense species
- Maintain required edge distances and spacing per ESR-3046

3.3 Field Quality Control

- Verify screws are fully seated with washer head bearing on wood
- Inspect for over-driven or under-driven fasteners
- Replace damaged or stripped screws
- Confirm correct screw lengths are used for required embedment

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3.4 Protection

- Protect installed fasteners from moisture during construction
- Remove debris and metal shavings from wood surfaces

SECTION 06 10 00 — ROUGH CARPENTRY

PART 1 — GENERAL

1.1 Summary

Provide all labor, materials, equipment, and services necessary for **rough carpentry**, including:

- Wood framing, blocking, nailers, and furring
- Sheathing and subflooring
- Roof and wall framing accessories
- Wood grounds, backing, and support for finishes
- Installation of connectors, anchors, and fasteners
- Protection and treatment of wood where required

1.2 References

- **AWC NDS** — National Design Specification for Wood Construction
- **APA PRP-108** — Performance Standards for Structural Panels
- **ASTM D1761** — Mechanical Fasteners in Wood
- **ASTM D2559** — Adhesives for Structural Wood Products
- **ICC-ES** evaluation reports for connectors and fasteners

1.3 Submittals

- Product data for framing lumber, sheathing, and fasteners
- Certificates of treatment for preservative-treated wood
- Shop drawings for engineered wood components (if applicable)
- Manufacturer data for metal connectors and anchors

1.4 Quality Assurance

- Lumber grading by an accredited agency (SPIB, WCLIB, WWPA, etc.)
- Installers experienced in rough carpentry and structural framing
- All materials and installation shall comply with building code requirements

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1.5 Delivery, Storage, and Handling

- Deliver materials dry, straight, and free of defects
- Store elevated and protected from moisture
- Do not install wet, decayed, or damaged lumber

PART 2 — PRODUCTS

2.1 Framing Lumber

- **Dimension Lumber:**
  - Species: SPF, Douglas Fir–Larch, or Southern Pine
  - Grade: No. 2 or better unless noted otherwise
- **Timbers:**
  - Grade: Select Structural or No. 1
- **Moisture Content:**
  - 19% maximum at time of installation

2.2 Sheathing

- **Wall and Roof Sheathing:**
  - APA-rated plywood or OSB
  - Exposure 1 or Exterior grade
  - Thickness: As indicated on drawings
- **Subflooring:**

- Tongue-and-groove plywood or OSB
- Minimum 23/32" unless otherwise noted

2.3 Blocking and Nailers

- SPF or DF-L lumber, No. 2 grade
- Sizes as required for support of finishes, equipment, and accessories

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2.4 Preservative-Treated Wood

- Required where wood is in contact with concrete, masonry, or moisture
- Treatment: **AWPA UC2 or UC3B** as applicable
- Fasteners: Hot-dip galvanized or stainless steel

2.5 Fasteners and Connectors

- Nails, screws, and bolts per **AWC NDS**
- Structural screws (e.g., Simpson Strong-Tie SDWS, SDS, or equal)
- Metal connectors:
  - Simpson Strong-Tie, USP, or approved equal
  - Installed per manufacturer's load tables

2.6 Adhesives

- Construction adhesive meeting ASTM D3498
- Subfloor adhesive where indicated

PART 3 — EXECUTION

3.1 Examination

- Verify substrates and foundations are level and ready for framing

- Confirm dimensions and layout prior to installation
- Report discrepancies before proceeding

3.2 Installation

- Install framing plumb, level, and square
- Provide solid blocking at all panel edges, fixtures, and hardware locations
- Install sheathing with required spacing for expansion
- Fasten per manufacturer's recommendations and code requirements
- Anchor framing to structure using specified connectors and hardware
- Cut and fit neatly around penetrations

3.3 Field Quality Control

- Inspect for proper fastening, alignment, and bearing
- Replace warped, split, or defective members
- Verify sheathing nailing patterns and panel orientation

3.4 Protection

- Protect installed framing from moisture until enclosed
- Remove debris and scrap wood daily
- Do not overload partially framed structures

SECTION 06 12 00 — GLUED-LAMINATED TIMBER (GLULAM) BEAMS AND PANELS

PART 1 — GENERAL

1.1 Summary

Provide **glued-laminated timber (glulam) beams and panels**, including:

- Structural glulam beams, girders, and columns
- Glulam floor, roof, or wall panels
- Curved, cambered, or custom-profiled members
- All required hardware, blocking, and accessories
- Factory appearance grades as indicated

1.2 References

- **ANSI A190.1** — Structural Glued Laminated Timber
- **AITC 117** — Standard Specifications for Structural Glued Laminated Timber
- **APA PR-L313** — Glulam Product Standard (referenced in Boise Cascade documentation) bc.com
- **AWC NDS** — National Design Specification for Wood Construction
- **ASTM D3737** — Evaluating Strength of Glued Laminated Timber
- **SFI® Chain-of-Custody** (when sustainability credits are required)

1.3 Submittals

- Product data for glulam beams and panels
- Shop drawings showing:
    - Member sizes, species, and grades
    - Camber, curvature, and orientation
    - Connection details and hardware locations

- Certificates of conformance to ANSI A190.1
- Sustainability documentation (SFI®, LEED®, or NGBS™) if required

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1.4 Quality Assurance

- Manufacturer shall be certified under **APA** or **AITC** inspection programs
- Fabrication shall comply with **ANSI A190.1**
- Installers experienced in mass-timber or engineered-wood construction

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1.5 Delivery, Storage, and Handling

- Deliver beams wrapped or protected from moisture
- Store elevated, ventilated, and fully covered
- Protect exposed faces from staining, abrasion, and UV exposure

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PART 2 — PRODUCTS

2.1 Plank

- Fabricator: Canam Mass Timber Hybrid Structures
- Contact: Pierre Levillain (pierre.levillain@groupecanam.com) or Jeffrey Bennett (jeffrey.bennett@canamgroupinc.com)

2.2 Materials

A. Manufacturer

- Element5/Hasslacher for glulam planking (Species per manufacturer standards)

B. Appearance Grades

- **Architectural** (exposed)
- **Industrial** (concealed)
- **Premium** (high-visibility applications)

C. Adhesives

- Exterior-grade or wet-use adhesives complying with **ANSI A190.1**
- Suitable for interior or exterior exposure as indicated

2.3 Glulam Beams

- Widths: **3⅛" to 14¼"** standard
- Depths: **6" to 48"** standard
- Lengths: Up to **60 ft stock**, **66 ft or more** by special order
- Camber: As specified; factory-produced camber available
- Custom shapes: Curved, tapered, or non-standard profiles as required

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2.4 Glulam Panels

- Layup: Parallel-laminated or cross-laminated depending on design
- Thickness: As indicated on drawings
- Panel width: Manufacturer standard
- Edge profile: Square or tongue-and-groove as required

2.5 Accessories

- Steel connectors, plates, and hardware
- Concealed or exposed fasteners compatible with glulam
- Moisture-resistant sealers for cut ends
- Fire-retardant coatings where required

2.4 Installation

- Coordinate structural material to be fabricated and installed by Canam Mass Timber Hybrid Structures and architectural materials to be provided by Element5/Canam to match structure, to be shop fabricated and installed by Canam Mass Timber Hybrid Structures.

PART 3 — EXECUTION

3.1 Examination

- Verify supporting structure is level and ready to receive glulam
- Confirm beam orientation (camber up)
- Report damage, moisture intrusion, or fabrication defects

3.2 Installation

- Install per manufacturer's instructions and AWC NDS
- Use lifting methods that prevent damage to edges and faces
- Provide bearing plates, shims, and blocking as required
- Protect exposed faces during installation
- Seal all field cuts with manufacturer-approved sealer

3.3 Field Quality Control

- Inspect for alignment, camber orientation, and proper bearing
- Verify connectors and fasteners match approved shop drawings
- Replace members with excessive checking, delamination, or damage

3.4 Cleaning & Protection

- Remove dirt, adhesives, and construction debris
- Protect exposed glulam from UV and moisture until enclosed
- Repair minor surface blemishes per manufacturer recommendations

SECTION 06 12 33 — CROSS-LAMINATED TIMBER (CLT) PANELS

PART 1 — GENERAL

1.1 Summary

Provide **cross-laminated timber (CLT) panels**, including:

- Floor, roof, wall, and shear panels
- Prefabricated openings, routing, and edge profiling
- Lifting hardware and embedded connectors
- Factory-applied sealers or coatings where required
- All accessories necessary for complete installation

1.2 References

- **ANSI/APA PRG-320** — Standard for Performance-Rated CLT
- **AWC NDS** — National Design Specification for Wood Construction
- **ASTM D6815** — Evaluation of CLT Bondline Durability
- **CSA O86** (if Canadian product is used)
- **ICC-ES ESR reports** for manufacturer-specific approvals

1.3 Submittals

- Product data for CLT panels
- Shop drawings showing:
    - Panel thickness, layup, and grade
    - Panel geometry, openings, and routing
    - Connection details and hardware locations
    - Lifting points and handling requirements
- Certificates of compliance with **ANSI/APA PRG-320**

- Moisture content documentation at time of shipment
- Sustainability documentation (FSC®, SFI®, or PEFC) if required

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1.4 Quality Assurance

- CLT manufacturer certified under **APA** or equivalent third-party inspection
- Fabrication in accordance with **PRG-320**
- Installers experienced in mass-timber construction
- All adhesives shall be PRG-320 approved (e.g., polyurethane or melamine-urea-formaldehyde)

1.5 Delivery, Storage, and Handling

- Deliver panels wrapped and protected from moisture
- Store elevated, ventilated, and fully covered
- Protect exposed faces from staining, abrasion, and UV exposure
- Handle using manufacturer-approved lifting points and rigging

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PART 2 — PRODUCTS

2.1 Panels

A. INTERIOR AND EXTERIOR CLT STRUCTURE, VERTICAL CLT PANELS, AND CLT HORIZONTAL PANELS

- Fabricator: Canam Mass Timber Hybrid Structures
- Contact: Pierre Levillain (pierre.levillain@groupecanam.com) or Jeffrey Bennett (jeffrey.bennett@canamgroupinc.com)

2.2 Materials

A. Wood Species

- Species shall comply with PRG-320 requirements

- Material: Canam - Element 5: Spruce Pine Fir (SP1- architectural) - Exterior and interior exposed surfaces

B. Adhesives

- Exterior-grade, PRG-320-approved structural adhesives
- Zero added urea-formaldehyde

2.3 Panel Properties

A. Layup

- **3-, 5-, 7-, or 9-ply** depending on structural requirements
- Alternating orthogonal layers
- Balanced or unbalanced layup as required

B. Thickness

- Typically **3" to 12+"** depending on ply count
- As indicated on drawings

C. Grades

- **Appearance Grade:** Architectural, Industrial, or Utility
- **Structural Grade:** E1, E2, V1, or manufacturer-specific grade

D. Factory Options

- Prefabricated openings
- CNC routing for connections
- Pre-installed splines or edge profiles
- Factory-applied penetrating sealer (optional)

2.4 Accessories

- Structural screws (e.g., Simpson SDWS, SDS, or equivalent)

- Steel plates, splines, and concealed connectors
- Bearing pads and shims
- Sealants and gaskets for air/water control layers

2.4 Installation

Coordinate structural material to be fabricated and installed by Canam Mass Timber Hybrid Structures and architectural materials to be provided by Element5/Canam to match structure, to be shop fabricated and installed by Canam Mass Timber Hybrid Structures.

PART 3 — EXECUTION

3.1 Examination

- Verify supporting structure is level and ready to receive panels
- Confirm panel orientation, grade, and layout match shop drawings
- Report damage, moisture intrusion, or fabrication defects

3.2 Installation

- Install per manufacturer’s instructions and AWC NDS
- Use lifting equipment that prevents damage to panel edges and faces
- Align panels to maintain tight joints and proper bearing
- Install connectors, screws, and hardware per engineered details
- Seal all field cuts with manufacturer-approved sealer
- Protect exposed faces during installation

3.3 Field Quality Control

- Verify panel alignment, bearing, and connection installation
- Inspect for excessive checking, delamination, or moisture damage
- Replace panels that do not meet structural or appearance requirements

3.4 Cleaning & Protection

- Remove dirt, adhesives, and construction debris
- Protect exposed CLT from UV and moisture until enclosure is complete
- Repair minor surface blemishes per manufacturer recommendations

SECTION 06 16 00 — SHEATHING

DUPONT™ ARMORWALL™ PLUS FIRE-RATED STRUCTURAL INSULATED SHEATHING (SIS)

PART 1 — GENERAL

1.1 Summary

Provide **DuPont ArmorWall™ Plus Fire-Rated Structural Insulated Sheathing (SIS)** panels, including all accessories, sealants, tapes, and fasteners required to create a continuous **structural sheathing + fire-resistance + air barrier + water-resistive barrier + continuous insulation** enclosure system. DuPont

1.2 References

- ICC-ES Listings: **ESL-1302, ESL-1306, ESL-1442, ESL-1536, ESL-1543**
- ASTM E330 — Structural performance
- ASTM E72 — Racking and transverse load testing
- NFPA 285 — Multi-story wall assembly fire test
- ASTM E2178 / E2357 — Air barrier performance
- ASTM E331 — Water penetration
- Manufacturer's published installation guides and technical documents DuPont

1.3 Submittals

- Product Data Sheet for ArmorWall™ Plus FR SIS
- Shop drawings showing panel layout, fastener schedule, and integration with cladding
- Air/water barrier continuity details
- ICC-ES evaluation reports
- Fire-rated assembly documentation (up to 2-hour assemblies) DuPont

1.4 Quality Assurance

- Manufacturer: DuPont, producer of ArmorWall™ Plus FR SIS
- Installer: Minimum 3 years' experience with structural insulated sheathing systems

- Mockup: Provide minimum 4'×4' assembly including joints, sealants, and cladding attachment

1.5 Delivery, Storage, and Handling

- Deliver panels in original packaging
- Store flat, elevated, and protected from moisture
- Panels may be exposed to weather for **up to 180 days** prior to cladding installation Cladding Concepts International

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PART 2 — PRODUCTS

2.1 Manufacturer

DuPont™
Product: **ArmorWall™ Plus Fire-Rated Structural Insulated Sheathing (SIS)**
A 5-in-1 composite panel providing:

- Structural sheathing
- Fire-resistance
- Air barrier
- Water-resistive barrier
- Continuous insulation (polyurethane) DuPont

2.2 Panel Composition

- **Exterior facer:** 1/2" Magnesium Oxide (MgO) sheathing
- **Insulation:** High-performance poured polyurethane insulation (Fusion Technology)
- **Interior facer:** MgO or structural substrate depending on model
- **Factory-applied air & water-resistive barrier** on exterior face
- **Continuous insulation R-value:** approx. **R-6.5 per inch** DuPont

2.3 Performance Requirements

- **Fire-Resistance:** Up to **2-hour rated assemblies** achievable
- **Air Barrier:** Meets air-leakage requirements when seams/fasteners sealed

- **Water-Resistive Barrier:** Factory-applied coating with high adhesion and compatibility with tapes/sealants
- **Structural Capacity:**
  - Supports direct cladding attachment without fastening back to studs
  - Tested to support loads equivalent to most cladding systems with minimal creep Cladding Concepts International
- **Exposure:** Panels may remain exposed for **180 days**
- **Wind/Seismic:** Passes ASTM E330 and E72 structural performance tests DuPont Canada

2.4 Sizes

Typical panel dimensions (per DuPont):

- **Thickness options:**
  - 2" panel (1/2" MgO + 1-1/2" insulation) — R-10
  - 2-3/4" panel — R-15
  - 3-3/4" panel — R-? (varies by insulation thickness)
- **Width:** 4 ft
- **Length:** 8 ft
  DuPont

2.5 Accessories

- **DuPont LiquidArmor™ FJ** flashing & joint compound
- **DuPont DuraGard™ WD** self-adhered flashing tape
- **DuPont ArmorSeal™** sealants
- **DuPont ArmorDry™** drainage mat (if required by cladding)
  DuPont

PART 3 — EXECUTION

3.1 Examination

- Verify framing is plumb and properly fastened
- Confirm panel thickness matches design R-value requirements
- Ensure all penetrations, openings, and transitions are prepared for air/water barrier continuity

3.2 Installation

- Install panels per DuPont's published installation guides
- Fasten directly to framing using approved fasteners and spacing
- Stagger vertical joints; maintain tight panel alignment
- Seal all seams, fasteners, and penetrations using LiquidArmor™ FJ or approved sealants
- Treat rough openings with DuPont flashing products
- Ensure continuity of air/water barrier at transitions to foundations, roofs, windows, and doors

3.3 Cladding Attachment

- Attach cladding **directly to ArmorWall Plus** without needing to locate studs
- Follow cladding manufacturer's fastener requirements
- For heavy claddings (e.g., terracotta, stone), verify load capacity per DuPont engineering data
  Cladding Concepts International

3.4 Field Quality Control

- Inspect fastener spacing, sealant coverage, and joint treatment
- Verify air/water barrier continuity
- Repair damaged coating or MgO facer per manufacturer instructions

3.5 Protection

- Protect installed panels from impact damage
- Do not leave unsealed penetrations exposed
- Ensure drainage plane continuity when used behind rainscreen cladding

SECTION 06 16 23 — ARCHITECTURAL MARINE-GRADE PLYWOOD WALL PANELS

PART 1 — GENERAL

1.1 Summary

Provide **architectural-quality marine-grade plywood wall panels**, including:

- Interior wall panels fabricated from marine-grade plywood
- Factory sanding, edge treatment, and preparation for finishing
- **Clear, water-resistant protective finish**
- All required trim, blocking, and accessories

1.2 References

- APA PS-1 — Structural Plywood
- APA Marine Grade Standard
- AWI Architectural Woodwork Standards (Premium Grade)
- ASTM D6007 — Formaldehyde emissions
- ANSI A208.1 — Wood-based panel performance

1.3 Submittals

- Product data for marine-grade plywood
- **Finish product data and VOC information**
- Samples showing veneer species, grain, and finish sheen
- Shop drawings indicating panel layout, reveals, joints, and trim
- Certificates of compliance with APA Marine Grade requirements

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1.4 Quality Assurance

- Manufacturer regularly producing architectural-grade marine plywood

- Fabrication in accordance with AWI Premium Grade
- All panels from a single production run for consistent appearance
- Finish materials from a single manufacturer

1.5 Delivery, Storage, and Handling

- Deliver panels flat, wrapped, and protected from moisture
- Store indoors, elevated, and acclimate to building humidity
- Protect edges and faces from damage during handling

PART 2 — PRODUCTS

2.1 Manufacturer

Acceptable manufacturers include:

- Roseburg
- Columbia Forest Products
- Murphy Plywood
- APA-certified marine-grade plywood manufacturers
- Or approved equal

2.2 Marine-Grade Plywood Panels

A. Material

- APA-certified **Marine-Grade plywood**
- Veneer species: As indicated (Douglas Fir, Birch, Maple, etc.)
- Core: All-veneer, void-free construction
- Adhesive: Exterior-grade, waterproof

B. Thickness

- **3/4" nominal** unless otherwise indicated

C. Appearance Grade

- A-A, A-B, or architectural veneer face per AWI Premium Grade

D. Fabrication

- Factory sanded, ready for finishing
- Edge treatment: Square, eased, or reveal edges as detailed
- CNC-cut openings as required

2.3 Clear Water-Resistant Finish

A. Finish Type

Provide a **clear, water-resistant coating system** suitable for interior architectural woodwork:

- **Option 1: Waterborne polyurethane** (low VOC, durable)
- **Option 2: Conversion varnish** (high durability, premium finish)
- **Option 3: Marine-grade spar urethane** (maximum moisture resistance)

B. Finish Characteristics

- Transparent, non-yellowing (unless amber tone is desired)
- Moisture-resistant and washable
- Available in matte, satin, semi-gloss, or gloss sheen
- Compatible with marine-grade plywood substrates

C. System

- **Sealer coat**
- **Two finish coats** minimum
- Additional coats where high durability is required

2.4 Accessories

- Wood blocking and furring

- Trim, reveals, and edge moldings
- Concealed fasteners where possible
- Sealers for field-cut edges

PART 3 — EXECUTION

3.1 Examination

- Verify wall substrates are plumb, level, and ready to receive panels
- Confirm environmental conditions meet finish manufacturer requirements
- Report irregularities before installation

3.2 Installation

- Install panels per manufacturer's instructions and AWI standards
- Maintain consistent grain direction and alignment
- Provide expansion spacing as required
- Fasten securely without surface distortion
- Seal all field-cut edges with manufacturer-approved sealer

3.3 Field Finishing (If Not Factory-Finished)

A. Preparation

- Sand surfaces smooth and remove dust
- Mask adjacent surfaces

B. Application

- Apply clear sealer coat uniformly
- Sand lightly between coats
- Apply **two or more coats** of clear water-resistant finish
- Ensure uniform sheen and clarity

C. Quality Control

- Inspect for runs, dust nibs, and uneven sheen
- Touch up or recoat as required

3.4 Cleaning & Protection

- Clean surfaces of dust, fingerprints, and adhesives
- Protect panels from moisture and construction damage
- Do not expose unfinished or newly finished panels to standing water

SECTION 06 20 00 — FINISH CARPENTRY

PART 1 — GENERAL

1.1 Summary

Provide all labor, materials, equipment, and services necessary for **finish carpentry**, including:

- Interior wood trim: baseboards, casings, chair rails, crown moldings
- Wood paneling, wainscoting, and decorative wall treatments
- Shelving, sills, aprons, and built-in wood components
- Installation of factory-finished and field-finished woodwork
- Blocking and support for finish carpentry items
- Coordination with other trades to ensure proper fit and alignment

1.2 References

- **AWI Architectural Woodwork Standards (AWS)**
- **AWPA** — Wood Protection Standards
- **ASTM D5572** — Adhesives for Wood
- **ASTM D905** — Strength Properties of Adhesive Bonds in Wood
- **AWC NDS** — National Design Specification for Wood Construction

1.3 Submittals

- Product data for trim, paneling, adhesives, and fasteners
- Samples of wood species, profiles, and finishes
- Shop drawings for custom millwork or built-ins
- Certificates of compliance for fire-retardant or treated wood (if required)

1.4 Quality Assurance

- Fabrication and installation shall comply with **AWI Premium Grade** unless noted otherwise
- Installers experienced in architectural finish carpentry
- All wood products from a single species and grade for uniform appearance

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1.5 Delivery, Storage, and Handling

- Deliver materials dry, straight, and free of defects
- Store indoors, elevated, and protected from moisture
- Acclimate wood to building humidity prior to installation

PART 2 — PRODUCTS

2.1 Materials

A. Wood Trim

- Species: As indicated (commonly maple, oak, poplar, cherry, or specified species)
- Grade: **Clear, Select, or AWI Premium Grade**
- Profiles: As shown on drawings or matching existing

B. Sheet Goods (If Required)

- Plywood:
    - Veneer-faced, hardwood species
    - Grade: A-A or A-B
    - Thickness: As indicated
- MDF or HDF for painted applications

2.2 Fasteners

- Finish nails, brads, screws, and concealed fasteners

- Stainless steel or coated fasteners in moisture-prone areas
- Fasteners sized to avoid splitting and ensure secure attachment

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2.3 Adhesives

- Construction adhesive meeting ASTM D3498
- Wood glue meeting ASTM D5572
- Low-VOC adhesives where required by code

2.4 Accessories

- Wood blocking and backing
- Trim anchors, clips, and concealed mounting hardware
- Shims, fillers, and matching wood putty

2.5 Finishes

- Factory-finished or field-finished as indicated
- Clear, stained, or painted finish per drawings
- Seal all field-cut edges prior to installation

PART 3 — EXECUTION

3.1 Examination

- Verify substrates are plumb, level, and ready to receive finish carpentry
- Confirm framing and blocking are in place
- Report irregularities before installation

3.2 Installation

- Install finish carpentry plumb, level, and true to line

- Scribe to adjacent surfaces for tight, uniform joints
- Provide continuous backing for all trim and paneling
- Nail and screw in concealed locations where possible
- Install trim with tight miters, clean joints, and consistent reveals
- Coordinate with door frames, windows, casework, and mechanical/electrical devices

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3.3 Field Quality Control

- Inspect for alignment, joint quality, and surface condition
- Replace warped, split, or defective materials
- Ensure consistent grain and color matching across visible surfaces

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3.4 Cleaning & Protection

- Remove dust, adhesives, and installation debris
- Protect installed finish carpentry from damage during remaining construction
- Do not expose unfinished wood to moisture

SECTION 06 41 00 — ARCHITECTURAL WOOD CASEWORK

LIGHT COMMERCIAL PLASTIC-LAMINATE-FACED CABINETS

PART 1 — GENERAL

1.1 Summary

Provide factory-built, plastic-laminate-faced architectural cabinets including:

- Base cabinets, wall cabinets, and tall storage units
- High-pressure decorative laminate (HPL) faces
- Shelving, drawer boxes, and hardware
- Toe-kicks, fillers, scribe, and trim
- All accessories and supports required for a complete installation

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1.2 References

- **AWI (Architectural Woodwork Institute) Standards — Section 10: Casework**
- ANSI A208.1 — Particleboard
- ANSI A208.2 — MDF
- NEMA LD-3 — High-Pressure Decorative Laminate
- ANSI/BHMA A156 — Cabinet hardware standards

1.3 Submittals

- Product data for cabinet construction, finishes, and hardware
- Shop drawings showing cabinet layout, dimensions, and installation details
- **Laminate color samples for Architect’s selection**
- Hardware schedule
- Warranty documentation

1.4 Quality Assurance

- Fabricator experienced in commercial casework
- Work shall meet **AWI Custom Grade** minimum
- All cabinets from a single manufacturer for uniformity

1.5 Delivery, Storage, and Handling

- Deliver cabinets fully assembled or knocked-down as specified
- Store indoors, protected from moisture and temperature extremes
- Do not install until building is fully enclosed and conditioned

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PART 2 — PRODUCTS

2.1 Manufacturers

Acceptable manufacturers include:

- Commercial millwork fabricator meeting AWI standards
- Merillat Commercial
- MasterBrand Commercial
- Or approved equal

2.2 Cabinet Construction

A. Case Materials

- **¾" particleboard or MDF core**
- Exposed ends: **HPL-faced**
- Interior surfaces: **Thermally fused melamine (TFM)** or clear UV finish

B. Doors & Drawer Fronts

- **¾" MDF or particleboard core**
- **High-pressure decorative laminate (HPL) face**

- PVC or HPL edge banding, 1 mm minimum
- Styles: Slab or Shaker (if stile-and-rail construction is required)

C. Shelving

- **¾" particleboard or MDF**, TFM-faced
- Adjustable on metal shelf pins
- Minimum load capacity: **50 lbs per shelf**

D. Drawer Boxes

- ½" plywood or hardwood sides
- Dovetail or dowel construction
- ¼" plywood bottom, fully captured

E. Hardware

- Hinges: Concealed, soft-close, ANSI/BHMA Grade 1
- Drawer slides: Full-extension, soft-close, 100-lb rating
- Pulls/handles: As selected by Architect
- Adjustable metal shelf pins

2.3 Finish

A. Plastic Laminate Finish

- **High-Pressure Decorative Laminate (HPL)** meeting NEMA LD-3
- Thickness: **0.028" vertical grade** minimum
- **Color and pattern: As selected by Architect from full manufacturer range**
- Edge banding: PVC or HPL, color-matched

B. Performance

- Smooth, uniform finish free of defects
- Resistant to stains, abrasion, and impact
- Suitable for light commercial use

2.4 Accessories

- Toe-kicks (recessed or applied)
- Scribe molding
- Filler panels
- Cabinet lighting (if specified)
- Grommets and wire-management components

PART 3 — EXECUTION

3.1 Examination

- Verify wall conditions, blocking, and utilities
- Confirm dimensions and layout prior to fabrication
- Report discrepancies before installation

3.2 Installation

- Install cabinets level, plumb, and securely anchored to wall blocking
- Shim as required; conceal shims behind toe-kicks or fillers
- Install hardware per manufacturer instructions
- Scribe and trim to adjacent surfaces for tight, clean fit

3.3 Field Quality Control

- Inspect laminate surfaces for chips, scratches, or defects
- Verify doors and drawers operate smoothly
- Adjust hinges and slides for proper alignment

3.4 Cleaning & Protection

- Clean surfaces with manufacturer-approved cleaners
- Protect cabinets from damage until project completion
- Touch up minor laminate or edge-banding defects

SECTION 07 21 00 — THERMAL INSULATION

UNDER-SLAB RIGID INSULATION — FOAMULAR® F-400 (100 PSI XPS)

PART 1 — GENERAL

1.1 Summary

Provide high-compressive-strength extruded polystyrene (XPS) insulation beneath concrete slabs-on-grade in industrial applications subject to heavy wheel loads, high point loads, and long-term creep demands.

1.2 References

- ASTM C578 — Rigid, Cellular Polystyrene Thermal Insulation
- ASTM E96 — Water Vapor Transmission
- ASTM D1621 — Compressive Strength
- ASTM C272 — Water Absorption
- ACI 302.1R — Concrete Floor and Slab Construction
- ACI 360R — Slabs-on-Ground
- Manufacturer's published product data

1.3 Submittals

- Product Data Sheet for **FOAMULAR® F-400**
- Certification of ASTM C578 compliance
- R-value documentation
- Installation instructions

1.4 Quality Assurance

- Manufacturer with minimum 10 years' experience producing XPS insulation
- Installer experienced with under-slab insulation systems
- All insulation of same type and thickness from a single manufacturer

1.5 Delivery, Storage, and Handling

- Deliver materials in original packaging

- Store flat, protected from sunlight and moisture
- Do not install damaged or warped boards

PART 2 — PRODUCTS

2.1 Manufacturer

Owens Corning — FOAMULAR® XPS Insulation
(Based on the Owens Corning under-slab insulation search results in your active tab)

2.2 Material — FOAMULAR® F-400

Provide **FOAMULAR® F-400** extruded polystyrene rigid insulation meeting the following:

Key Properties

- **Compressive Strength: 100 psi** minimum (ASTM D1621)
- **ASTM Classification:** ASTM C578, **Type VI**
- **Thermal Resistance:** R-5 per inch (nominal)
- **Water Absorption:** ≤ 0.3% by volume (ASTM C272)
- **Water Vapor Permeance:** Low permeance suitable for below-slab use
- **Long-term creep resistance:** Suitable for heavy industrial loads
- **Edges:** Square or shiplap
- **Thickness:** As indicated on drawings (typically 2"–6")

2.3 Accessories

- Compatible construction adhesive (if required)
- Joint tape (optional)
- Vapor barrier (specified separately)

PART 3 — EXECUTION

3.1 Examination

- Verify subgrade is smooth, compacted, and free of debris

- Remove sharp objects that could puncture insulation
- Confirm vapor barrier installation (if used) is complete and undamaged

3.2 Installation

- Lay insulation boards flat over prepared subgrade or vapor barrier
- Stagger joints and fit boards tightly
- Cut boards cleanly around penetrations
- Do not leave gaps greater than 1/4 inch
- Protect insulation from damage during reinforcement placement and equipment traffic

3.3 Protection

- Replace damaged boards
- Prevent standing water above insulation
- Do not allow forklifts or heavy equipment to drive directly on insulation

3.4 Concrete Placement

- Place concrete directly over insulation
- Avoid dragging rebar or tools across insulation
- Ensure insulation remains in place during pour

SECTION 07 21 19 — CONCRETE-FACED INSULATED PERIMETER WALL PANELS

T-CLEAR WALLGUARD® — 2" THICK PANELS (R-10)

PART 1 — GENERAL

1.1 Summary

Provide factory-manufactured **2" thick WallGUARD® concrete-faced insulated perimeter wall panels**, including hidden clip attachment system, PVC cap flashing, and PVC side flashing.

1.2 References

- ASTM C578 — Rigid extruded polystyrene insulation
- ASTM C109 — Compressive strength of cementitious coatings
- Manufacturer's published technical data and installation instructions

1.3 Submittals

- Product data for WallGUARD® 2" panels
- Installation instructions
- Samples of concrete-faced finish (if field coating is specified)
- Flashing data sheets
- Warranty documentation

1.4 Quality Assurance

- Manufacturer: **T. Clear Corporation**
- Installer: Minimum 3 years' experience with insulated wall panels
- Mockup: Provide minimum 4'×4' section showing joints, clips, and flashing

1.5 Delivery, Storage, and Handling

- Deliver panels in original packaging
- Store flat, elevated, and protected from moisture
- Handle carefully to avoid cracking the concrete facing
- Protect tongue-and-groove edges from damage

PART 2 — PRODUCTS

2.1 Manufacturer

T. Clear Corporation
Product: **WallGUARD® Concrete-Faced Insulated Perimeter Wall Panels**
Source: Manufacturer website

2.2 Panel Description — 2" THICK (R-10)

Factory-produced insulated wall panel consisting of:

- **Insulation:**
  - Extruded polystyrene (XPS)
  - **2" thickness**
  - **R-10 nominal thermal resistance** (per manufacturer)
- **Concrete Facing:**
  - **5/16" latex-modified concrete coating**
  - Durable, impact-resistant finish
  - Natural color variation, efflorescence, and hairline cracking are normal and do not affect performance (per manufacturer guidance)
- **Panel Size:**
  - **2' × 4'** nominal
  - Tongue-and-groove edges on long dimension

2.3 Accessories

- **Hidden clip attachment system** (included with each pallet)
- **PVC Cap Flashing** — rigid, UV-stable, color-matched
- **PVC Side Flashing** — for vertical terminations
- Fasteners compatible with substrate (by installer)

2.4 Performance Requirements

- Provides continuous insulation at slab edge and foundation perimeter

- Suitable for above-grade or below-grade installation
- Freeze-thaw resistant
- Concrete facing protects insulation from impact and UV exposure
- No thermal bridging at flashings (PVC components)

PART 3 — EXECUTION

3.1 Examination

- Verify substrate is clean, sound, and suitable for clip attachment
- Confirm grade level and termination heights
- Ensure foundation or wall surface is plumb and free of protrusions

3.2 Installation

- Install per T. Clear's published installation instructions
- Use **hidden clip system** supplied with product
- Engage tongue-and-groove edges for continuous insulation
- Install panels from bottom up, maintaining level coursing
- Cut panels cleanly around openings and transitions
- Install **PVC cap flashing** at top termination
- Install **PVC side flashing** at vertical edges

3.3 Field Quality Control

- Inspect panel alignment, clip engagement, and joint fit
- Verify flashing continuity and watertight transitions
- Replace damaged panels immediately

3.4 Cleaning & Protection

- Clean concrete facing with soft brush and water
- Protect installed panels from construction impact
- Apply latex masonry coating if uniform color is desired (optional per manufacturer)

SECTION 07 22 16 — TAPERED ROOF INSULATION AND COVER BOARD

COMMERCIAL LOW-SLOPE ROOFING APPLICATIONS

PART 1 — GENERAL

1.1 Summary

Provide a complete roof insulation system including:

- Tapered polyisocyanurate insulation
- Crickets, saddles, and drainage slope packages
- **Cover board installed over tapered insulation**
- Adhesives, fasteners, and accessories required for a complete assembly

1.2 References

- ASTM C1289 — Polyisocyanurate Insulation
- ASTM E84 — Surface Burning Characteristics
- ASTM C1177 — Glass-mat gypsum board
- FM 4450 / FM 4470 — Roof System Approvals
- UL 1256 — Insulated Roof Deck Construction
- NRCA Roofing Manual
- Manufacturer’s tapered design guidelines

1.3 Submittals

- Product data for tapered insulation and cover board
- Tapered layout drawings showing slopes and drainage patterns
- Fastener and adhesive data sheets
- FM or UL approvals for the complete roof assembly
- Warranty documentation

1.4 Quality Assurance

- Installer with minimum 5 years’ experience installing tapered insulation systems

- All insulation and cover board components from a single manufacturer or approved equal
- Pre-installation meeting required for roofs over 10,000 sq ft

1.5 Delivery, Storage, and Handling

- Deliver materials in original packaging
- Store elevated and protected from moisture
- Keep insulation and cover boards dry; discard wet or damaged materials
- Protect edges from breakage

PART 2 — PRODUCTS

2.1 Manufacturers

Acceptable manufacturers include:

- **Elevate (Firestone)** — ISO 95+™ Tapered Polyiso, ISOGARD™ HD, STRUCTODEK® HD, DensDeck®, Securock®, DEXcell® elevatecommercialbp.com
- Carlisle SynTec
- Johns Manville
- GAF
- Or approved equal

2.2 Tapered Polyisocyanurate Insulation

A. Material

- Closed-cell polyiso foam core
- Coated glass facer
- Complies with ASTM C1289, Type II, Class 1

B. Thermal Resistance

- Minimum **R-5.6 per inch** at 75°F

C. Tapered System Requirements

- Standard slopes: **1/8" per foot**, **1/4" per foot**, or as shown on drawings
- Include crickets, saddles, and sumps at drains
- Minimum starting thickness: **1.5"**

D. Fire & Performance

- Meets ASTM E84 Class A
- FM or UL approved for the specified roof system

2.3 Cover Board (Required Over Tapered Insulation)

Cover board shall be **one of the following Elevate products**, as shown in your active tab elevatecommercialbp.com:

A. ISOGARD™ HD Cover Board

- High-density polyiso cover board
- **½" thick**, R-value **2.5**
- Lightweight (12 lbs per 4'×8' board)
- Highest thermal performance among ½" cover boards
- Compatible with adhered and mechanically fastened systems

B. STRUCTODEK® HD (Primed Red Coating)

- High-density wood fiber board
- **½" thick**
- Factory-applied red primer for optimal adhesion
- Compatible with single-ply, BUR, and modified bitumen
- UL and FM approved in many assemblies

C. DensDeck® or DensDeck® Prime

- Non-combustible, glass-mat gypsum board
- Thicknesses: **¼", ½", ⅝"**
- Water-resistant, silicone-treated core

- Compatible with EPDM, TPO, PVC, BUR, and Mod Bit

D. Securock® Roof Boards

- Cement or gypsum-fiber cover boards
- Thicknesses: **¼", ⅜", ½", ⅝"**
- High durability, excellent fire and wind-uplift resistance
- Compatible with all major roof systems

E. DEXcell® Roof Boards

- Glass-mat or cementitious roof boards
- Thicknesses: **¼", ½", ⅝"**
- ASTM C1177 compliant
- Compatible with mechanically attached and adhered systems

F. General Cover Board Requirements

- Installed over tapered insulation
- Provides impact resistance, fire performance, and membrane adhesion
- Must be compatible with adhesives and roofing membrane

2.4 Fasteners & Adhesives

- Manufacturer-approved fasteners for mechanical attachment
- Low-rise foam adhesive for adhered systems
- Fastener patterns per FM 1-29 or manufacturer requirements

2.5 Accessories

- Tapered edge strips
- Drain sumps
- Crickets at curbs and rooftop units
- Walkway pads (if part of roofing system)

PART 3 — EXECUTION

3.1 Examination

- Verify roof deck is clean, dry, and structurally sound
- Confirm deck tolerances allow proper drainage
- Ensure tapered layout matches approved shop drawings

3.2 Installation — Tapered Insulation

- Install boards per manufacturer instructions
- Stagger joints and maintain tight contact
- Install slopes as shown on tapered layout
- Provide crickets at drains, scuppers, and behind curbs
- Mechanically fasten or adhere per roof system requirements

3.3 Installation — Cover Board

- Install cover board immediately after insulation
- Stagger joints relative to insulation joints
- Mechanically fasten or adhere per manufacturer requirements
- Ensure smooth, even substrate for membrane installation

3.4 Field Quality Control

- Verify slopes drain properly
- Check for soft spots or loose boards
- Inspect fastener patterns and adhesive coverage
- Replace damaged insulation or cover boards

3.5 Protection

- Protect installed insulation and cover board from moisture and traffic
- Begin membrane installation as soon as practical

SECTION 07 26 00 — VAPOR RETARDERS

STEGO WRAP 20-MIL VAPOR BARRIER

PART 1 — GENERAL

1.1 Summary

Provide a **20-mil below-slab vapor barrier** meeting ASTM E1745 Class A requirements for moisture protection beneath concrete slabs-on-grade.

1.2 References

- ASTM E1745 — Standard Specification for Plastic Vapor Retarders Under Concrete Slabs
- ASTM E96 — Water Vapor Transmission
- ACI 302.1R — Guide for Concrete Floor and Slab Construction
- ACI 360R — Design of Slabs-on-Ground
- Manufacturer’s published product data

1.3 Submittals

- Product Data Sheet for **Stego Wrap 20-Mil Vapor Barrier**
- Installation instructions
- Manufacturer’s certification of ASTM E1745 Class A compliance
- Tape and accessory data sheets

1.4 Quality Assurance

- Manufacturer with minimum 10 years’ experience producing under-slab vapor barriers
- Installer experienced with vapor barrier installation
- Pre-installation meeting if required

1.5 Delivery, Storage, and Handling

- Deliver materials in original, unopened packaging
- Store rolls upright, protected from sunlight and physical damage

- Do not use damaged materials

PART 2 — PRODUCTS

2.1 Manufacturer

Stego Industries, LLC
Product line: Stego Wrap Vapor Barrier Systems

2.2 Product

Stego Wrap 20-Mil Vapor Barrier

- ASTM E1745 **Class A** vapor barrier
- Minimum thickness: **20 mils**
- High puncture resistance
- Very low permeance (typically ≤ 0.01 perms)
- Suitable for direct placement under concrete slabs

2.3 Accessories

- **Stego Tape** — sealing seams and penetrations
- **Stego Mastic** — sealing irregular surfaces
- **Stego Crete Claw** — for slab edge termination
- Preformed boots for pipe penetrations (if required)

2.4 Performance Requirements

- Water Vapor Permeance: ≤ 0.01 perms (ASTM E96)
- Tensile Strength: Meets or exceeds ASTM E1745 Class A
- Puncture Resistance: Meets or exceeds ASTM E1745 Class A
- Chemical resistance: Compatible with typical soil conditions

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PART 3 — EXECUTION

3.1 Examination

- Verify subgrade is smooth, compacted, and free of debris
- Remove sharp objects that could puncture membrane
- Ensure utilities and penetrations are properly located

3.2 Installation

- Unroll Stego Wrap with longest dimension parallel to slab placement
- Overlap seams a minimum of **6 inches**
- Seal all seams with **Stego Tape**
- Seal all penetrations with Stego Tape, Mastic, or boots
- Extend vapor barrier to perimeter formwork and seal using **Stego Crete Claw** or approved method
- Protect membrane from damage during reinforcement placement

3.3 Protection

- Repair punctures or tears with Stego Tape or patches extending 6 inches beyond damaged area
- Do not allow standing water above membrane prior to concrete placement
- Prevent construction traffic from damaging membrane

3.4 Concrete Placement

- Place concrete directly over vapor barrier
- Avoid dragging rebar or tools across membrane
- Do not puncture membrane with stakes or formwork

SECTION 07 42 43 — TERRACOTTA WALL CLADDING

LUDOWICI NEXCLAD TRUE OVER ARMORWALL PLUS

PART 1 — GENERAL

1.1 Summary

Provide a complete **terracotta wall cladding system** consisting of Ludowici **NeXclad True** tiles installed over **ArmorWall Plus** structural insulated sheathing, including mechanical fasteners, drainage mat, trim tiles, and all related accessories.

1.2 References

- ASTM C1167 — Clay Roof and Wall Tile (breaking load, freeze-thaw, permeability, efflorescence, thermal shock)
- ASTM E136 — Non-combustibility
- NFPA 285 — Multi-story wall assembly fire test
- Manufacturer's installation guidelines for NeXclad True ludowici.com
- ArmorWall Plus installation guidelines (Division 06/07)

1.3 Submittals

- Product Data Sheet for NeXclad True
- Samples of selected color, texture, and finish
- Shop drawings showing coursing, layout, trim, and interface details
- Wall assembly details showing integration with ArmorWall Plus
- Warranty documentation (75-year material warranty) ludowici.com

1.4 Quality Assurance

- Manufacturer: Ludowici Roof Tile
- Installer: Minimum 5 years' experience installing terracotta cladding
- Mockup: Provide minimum 4'×4' panel showing tile layout, fastening, drainage mat, and trim

1.5 Delivery, Storage, and Handling

- Deliver tiles in original packaging
- Store on pallets, protected from moisture and impact
- Handle tiles carefully to avoid chipping or cracking

PART 2 — PRODUCTS

2.1 Manufacturer

Ludowici Roof Tile
Product: **NeXclad True** terracotta cladding tiles

- Module: 12" × 8"
- Overall size: 11-3/4" × 9-1/2"
- Exposure: 11-7/8" × 8"
- Pieces per square: 150
- Weight per square: 815 lbs ludowici.com

2.2 Material

- High-fired natural terracotta clay tile
- Smooth surface texture (standard)
- Through-body color or glazed finish
- Non-combustible per ASTM E136
- Tested per ASTM C1167 for freeze-thaw, permeability, efflorescence, thermal shock, and breaking load ludowici.com

2.3 Colors & Textures

- Standard through-body color: Clay Red
- Optional: Full Ludowici palette of matte, glazed, and impressionist finishes (over 50 options) ludowici.com
- Textures: Smooth (standard), Weathered, or custom

2.4 Accessories

- Ludowici drainage mat (required behind all NeXclad installations)

- Stainless steel mechanical fasteners
- Trim tiles: corners, shiplap corners, V-corners, knife corners, coping tiles, sill tiles, jamb and head trims ludowici.com
- Flashings and waterproofing (Division 07)

2.5 Substrate — ArmorWall Plus

ArmorWall Plus is a **structural insulated sheathing (SIS)** panel with:

- Integrated continuous insulation
- Structural facer board suitable for mechanical fastening
- Exterior-grade surface compatible with waterproofing membranes

NeXclad True is approved for installation over SIS systems using **mechanical anchors into the structural facer board**, with the drainage mat and waterproofing membrane installed in front of the sheathing ludowici.com.

PART 3 — EXECUTION

3.1 Examination

- Verify ArmorWall Plus is installed flat, structurally sound, and properly fastened
- Confirm waterproofing membrane is continuous and integrated with flashings
- Ensure Ludowici drainage mat is installed continuously over the membrane

3.2 Installation

- Install NeXclad True tiles per Ludowici's SIS-based installation guidelines ludowici.com
- Mechanically fasten each tile through pre-drilled holes into the **ArmorWall Plus structural facer**
- Maintain consistent coursing and alignment
- Install trim tiles at corners, terminations, sills, jambs, and coping locations
- Ensure drainage mat remains continuous behind cladding
- Do not install cracked or damaged tiles

3.3 Field Quality Control

- Inspect tile alignment, fastening, and coursing
- Verify proper integration with flashings and waterproofing
- Replace damaged tiles immediately

3.4 Cleaning & Protection

- Clean tiles with soft brush and water only
- Protect installed cladding from construction damage
- Do not use acidic cleaners

SECTION 07 53 23 — EPDM ROOFING

CARLISLE SYNTEC MECHANICALLY FASTENED EPDM ROOFING SYSTEM

PART 1 — GENERAL

1.1 Summary

Provide a complete **mechanically fastened Carlisle SynTec EPDM roofing system**, including membrane, fasteners, insulation, cover board, flashings, adhesives, and all accessories required for a watertight installation.

1.2 References

- ASTM D4637 — EPDM Sheet Roofing
- ASTM D6878 — Flashing materials
- FM 1-28, 1-29 — Wind uplift and fastening requirements
- NRCA Roofing Manual
- Carlisle SynTec published installation guidelines and technical resources carlislesyntec.com

1.3 Submittals

- Product data for EPDM membrane, fasteners, insulation, and accessories
- Carlisle standard details for mechanically fastened systems
- Shop drawings showing fastener patterns, penetrations, and terminations
- Sample warranty
- Certification of Carlisle Authorized Applicator (if required)

1.4 Quality Assurance

- Manufacturer: **Carlisle SynTec Systems**
- Installer: Carlisle Authorized Applicator (recommended for warranty eligibility)
- Pre-installation meeting required for roofs over 10,000 sq ft
- Mockup: Minimum 4'×4' area showing membrane, fastening, and flashing

1.5 Warranty

- Provide Carlisle **20-year Total System Warranty** (or as specified)
- Warranty shall cover membrane, flashings, adhesives, and installation workmanship

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PART 2 — PRODUCTS

2.1 Manufacturer

Carlisle SynTec Systems
EPDM Roofing Systems Division carlislesyntec.com

2.2 EPDM Membrane

- Type: Carlisle Sure-Seal® (black) or Sure-White® (white) EPDM
- Thickness: **60 mil** (standard) or **75/90 mil** (premium)
- Sheet width: 10'–20' typical for mechanically fastened systems
- Conformance: ASTM D4637, Type I or II

2.3 Insulation

- Polyisocyanurate (Carlisle InsulBase® or equivalent)
- Tapered insulation where required for drainage
- Cover board: Carlisle SecurShield® HD or gypsum-based board (recommended for durability)

2.4 Fasteners & Plates (Primary Component)

- Carlisle HP-X or HP-Lite fasteners
- Carlisle HP-X plates (metal or polymer-coated)
- Fastener spacing per Carlisle wind-uplift tables and FM requirements

2.5 Adhesives & Sealants

- Carlisle primer and seam tape for field seams
- Carlisle Lap Sealant
- Carlisle bonding adhesive for flashings
- Low-rise foam adhesive (FAST™ or OlyBond®) for insulation if not mechanically attached

2.6 Flashings & Accessories

- Carlisle EPDM cured and uncured flashing
- Pre-molded pipe boots
- Termination bars
- Walkway pads
- Edge metal: Carlisle SecurEdge™ or ANSI/SPRI ES-1 compliant metal

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PART 3 — EXECUTION

3.1 Examination

- Verify substrate is smooth, clean, and properly sloped
- Confirm all penetrations and curbs are installed
- Do not begin roofing until substrate moisture content is acceptable

3.2 Installation — General

- Install per Carlisle SynTec's published installation guidelines and details carlislesyntec.com
- Lay out membrane to minimize field seams
- Position sheets so that mechanical fasteners occur along membrane lap edges

3.3 Mechanical Fastening

- Install fasteners and plates along membrane edges at spacing required by Carlisle wind-uplift tables
- Fasteners must penetrate deck per manufacturer requirements
- Overlap adjacent sheets and install seam tape over fastened edges
- Roll seams to ensure full adhesion
- Probe seams after curing

3.4 Flashing Installation

- Flash all penetrations with Carlisle EPDM flashing
- Use pre-molded boots where possible

- Install termination bars at vertical transitions
- Seal all edges with Lap Sealant

3.5 Insulation Installation

- Install insulation in staggered pattern
- Attach using mechanical fasteners or low-rise foam adhesive per design
- Install cover board where specified

3.6 Field Quality Control

- Inspect seams, fasteners, flashings, and terminations
- Repair deficiencies immediately
- Coordinate Carlisle inspection for warranty approval

3.7 Protection

- Protect membrane from construction traffic
- Install walkway pads at service areas

SECTION 07 62 00 — SHEET METAL FLASHING AND TRIM

METAL FLASHING FOR EPDM ROOFING SYSTEMS

PART 1 — GENERAL

1.1 Summary

Provide all sheet-metal flashings and trim required for the roofing system, including edge metal, coping, counterflashings, scuppers, gravel stops, fascia trim, and penetration flashings.

1.2 References

- SMACNA Architectural Sheet Metal Manual
- ANSI/SPRI ES-1 — Wind Design Standard for Edge Systems
- ASTM A653 — Galvanized Steel Sheet
- ASTM B209 — Aluminum Sheet
- ASTM A240 — Stainless Steel Sheet
- Carlisle SynTec EPDM roofing details and accessory requirements carlislesyntec.com

1.3 Submittals

- Product data for sheet metal, coatings, and accessories
- Shop drawings showing profiles, gauges, fastening, and jointing
- Color samples
- ES-1 certification for edge metal (if required)
- Warranty documentation (if part of roofing warranty)

1.4 Quality Assurance

- Fabricator: Minimum 5 years' experience in architectural sheet-metal fabrication
- Installer: Experienced in SMACNA-compliant sheet-metal work
- Coordinate flashing installation with Carlisle EPDM roofing installer to maintain watertight continuity

1.5 Delivery, Storage, and Handling

- Deliver materials in protective packaging
- Store flat, dry, and protected from deformation
- Prevent galvanic corrosion by separating dissimilar metals

PART 2 — PRODUCTS

2.1 Sheet Metal Materials

Select one of the following (project-specific):

- **Aluminum:** 0.040" or 0.050" Kynar-finished
- **Galvanized Steel:** 24-ga or 22-ga, G90 coating
- **Stainless Steel:** 24-ga Type 304
- **Copper:** 16 oz or 20 oz (if specified)

2.2 Finish

- Factory-applied Kynar 500®/Hylar 5000® coating (standard)
- Color as selected by Architect
- Mill finish for stainless steel or copper

2.3 Fabrication

- Fabricate per SMACNA standards
- Hem exposed edges
- Provide expansion joints at 10'-0" max unless otherwise required
- Provide continuous cleats of same metal type, minimum 20-ga
- Form drip edges, kickouts, and reglets as required

2.4 Accessories

- Fasteners: Stainless steel or coated to match metal
- Sealants: Non-hardening, compatible with EPDM roofing
- Underlayment: Self-adhered membrane where required

- Cleats, splice plates, and joint covers
- Carlisle-approved termination bars and sealants where flashing interfaces with EPDM membrane carlislesyntec.com

2.5 Edge Metal (If Coordinating with Carlisle EPDM)

- Carlisle **SecurEdge™** or ES-1-rated edge metal
- Compatible with EPDM membrane terminations
- Provide continuous cleats and splice plates

PART 3 — EXECUTION

3.1 Examination

- Verify substrates are smooth, dry, and properly prepared
- Confirm roofing membrane installation is complete at flashing locations
- Ensure blocking is installed where required for edge metal and coping

3.2 Installation

- Install per SMACNA standards and manufacturer details
- Coordinate with Carlisle EPDM terminations, ensuring watertight integration
- Install continuous cleats for fascia, coping, and gravel stops
- Lap joints minimum 4" with concealed sealant
- Provide expansion joints at required intervals
- Ensure positive drainage away from walls and penetrations

3.3 Counterflashing

- Install counterflashings over EPDM base flashings
- Secure mechanically or insert into reglets
- Seal top edges with compatible sealant

3.4 Edge Metal

- Install edge metal over EPDM per Carlisle details

- Fasten per ES-1 requirements
- Seal membrane under edge metal with Carlisle-approved sealant or tape carlislesyntec.com

3.5 Field Quality Control

- Inspect joints, seams, and fasteners
- Ensure no oil-canning beyond SMACNA tolerances
- Verify watertight transitions at roofing membrane

3.6 Cleaning & Protection

- Remove metal filings and debris
- Clean surfaces without damaging finish
- Protect installed flashing from construction traffic

SECTION 08 11 13 — HOLLOW METAL DOORS AND FRAMES

PAINTED STEEL DOORS AND FRAMES

PART 1 — GENERAL

1.1 Summary

Provide **painted hollow metal doors and frames**, including:

- Swinging hollow metal doors
- Welded or knock-down hollow metal frames
- Hardware reinforcement
- Factory primer and field finish
- Accessories and anchors required for a complete installation

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1.2 References

- SDI 100 — Hollow Metal Doors
- SDI 117 — Manufacturing Tolerances
- SDI 122 — Installation and Troubleshooting
- ANSI/SDI A250.8 — Standard Steel Doors and Frames
- ASTM A653 — Zinc-Coated Steel Sheet
- NFPA 80 — Fire Doors and Other Opening Protectives (where applicable)

1.3 Submittals

- Product data for doors, frames, and accessories
- Shop drawings showing:
    - **Door and frame sizes as shown on the drawings**
    - Frame profiles and throat dimensions
    - Hardware reinforcement locations

- Fire ratings (if applicable)

- Primer and finish data
- Warranty documentation

1.4 Quality Assurance

- Manufacturer regularly engaged in producing hollow metal doors and frames
- Products shall comply with **SDI Level 1 (Light Duty)**, **Level 2 (Standard Duty)**, or **Level 3 (Heavy Duty)** as indicated
- Fire-rated assemblies shall bear appropriate labels

1.5 Delivery, Storage, and Handling

- Deliver doors and frames wrapped or cartoned
- Store indoors, elevated, and protected from moisture
- Do not install damaged or warped components

PART 2 — PRODUCTS

2.1 Manufacturers

Acceptable manufacturers include:

- Steelcraft
- Curries
- Ceco
- Republic
- Or approved equal

2.2 Hollow Metal Doors

A. Construction

- Type: **Flush, seamless or seam-welded hollow metal doors**
- Thickness: **1-3/4"**
- Core: Honeycomb (standard), polystyrene, or mineral fiber as specified
- Steel face sheets:
    - **18-gauge** for standard duty
    - **16-gauge** for heavy duty

B. Hardware Reinforcement

- Hinges: 10-gauge reinforcement
- Locksets: 14-gauge reinforcement
- Closers: 12-gauge reinforcement

C. Finish

- **Factory-applied rust-inhibitive primer**
- Field-applied topcoat per Section 09 90 00

2.3 Hollow Metal Frames

A. Construction

- Steel thickness:
    - **16-gauge** for standard duty
    - **14-gauge** for heavy duty
- Frame type:
    - Welded frames (interior or exterior)
    - Knock-down frames (interior only)
- **Frame sizes, throat dimensions, and profiles shall be as shown on the drawings.**
- Profiles: Standard 5-3/4" throat unless otherwise indicated

B. Anchors

- Wood stud walls: Steel T-anchors or wood screws

- Steel stud walls: Adjustable steel anchors
- Masonry walls: Wire or strap anchors
- Mass timber/CLT walls: Structural wood screws (if applicable)

C. Finish

- **Factory-applied rust-inhibitive primer**
- Field finish per Section 09 90 00

2.4 Accessories

- Silencers
- Mullions
- Transom panels
- Glazing stops (if vision panels required)
- Fire labels where applicable

PART 3 — EXECUTION

3.1 Examination

- Verify openings are plumb, level, and correctly sized
- Confirm wall construction matches frame throat dimensions
- Report discrepancies before installation

3.2 Installation

- Install frames plumb, level, and securely anchored
- Brace frames until wall construction is complete
- Install doors with proper clearances per SDI 122
- Install hardware per manufacturer templates
- Touch up primer where abraded

3.3 Field Quality Control

- Verify doors swing freely without binding
- Confirm hardware operates smoothly
- Inspect finish for scratches or defects

3.4 Cleaning & Protection

- Clean surfaces with manufacturer-approved cleaners
- Protect doors and frames from construction damage
- Remove protective coverings at project closeout

SECTION 08 31 16 — FLOOR ACCESS DOORS

PAINTED STEEL FLOOR ACCESS DOOR — TYPE J-CHANNEL FRAME FOR CLT FLOOR

PART 1 — GENERAL

1.1 Summary

Provide a complete **painted steel floor access door assembly** for installation in **cross-laminated timber (CLT) floor panels**, including:

- Single-leaf steel floor access door
- **Type J-Channel frame** with anchor angles
- Hinges, lift mechanisms, and hardware
- Hold-open arm and optional drain coupling
- Factory-applied primer finish
- CLT-compatible fasteners and blocking

1.2 Related Sections

- 06 17 00 — Shop-Fabricated Structural Wood (CLT panels)
- 06 10 00 — Rough Carpentry (blocking, shims, edge reinforcement)
- 07 90 00 — Joint Sealants
- 09 90 00 — Painting and Coatings

1.3 References

- ASTM A36 — Carbon Structural Steel
- ASTM A653 — Zinc-Coated Steel Sheet
- ANSI/AWC NDS — National Design Specification for Wood Construction
- Manufacturer’s published installation instructions

1.4 Submittals

- Product data for floor access door
- Shop drawings showing:
    - **Size as indicated on drawings**
    - J-Channel frame configuration
    - CLT anchorage and blocking details
    - Drainage (if applicable)
- Primer and finish data
- Warranty documentation

1.5 Quality Assurance

- Manufacturer specializing in floor access doors
- Installers experienced with CLT construction
- All components from a single manufacturer for uniformity

1.6 Delivery, Storage, and Handling

- Deliver doors in manufacturer’s protective packaging
- Store indoors, protected from moisture and impact
- Do not install until CLT floor openings are complete and dry

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PART 2 — PRODUCTS

2.1 Manufacturer

Bilco
Product: **Type J-Channel Frame Floor Access Door, 300 PSF**
(Information referenced from your active tab .)
Or approved equal meeting all requirements.

2.2 Floor Access Door Assembly

A. General

- Type: **Single-leaf steel floor access door**
- Frame: **Type J-Channel Frame**, flush-mount for CLT
- Load rating: **300 psf live load**
- Size: **As shown on drawings**

B. Materials

- Cover and frame: **¼" (6 mm) steel plate**
- Cover surface: **Diamond-pattern tread plate**
- Frame: **Formed J-channel** with continuous anchor angle
- Drainage: **1-½" drain coupling** (optional)

C. Hardware

- Hinges: Heavy forged stainless steel
- Lift assistance: Enclosed compression springs
- Hold-open arm: Automatic, with grip-handle release
- Latch: Stainless steel slam latch with interior handle
- All hardware corrosion-resistant

D. Finish

- **Factory-applied red oxide primer**
- Field-applied topcoat per Section 09 90 00

E. CLT-Specific Requirements

- **Fasteners:**

  - Structural wood screws or lag screws compatible with CLT
  - Stainless steel or corrosion-resistant coating
- **Blocking:**
  - Provide **solid timber blocking** around opening for full bearing and screw withdrawal capacity
- **Moisture Protection:**
  - Seal J-channel perimeter with elastomeric sealant
  - Seal exposed CLT edges with manufacturer-approved edge sealer
- **Fire Considerations:**
  - Maintain required CLT char cover around opening
  - Coordinate with CLT floor fire-resistance design

PART 3 — EXECUTION

3.1 Examination

- Verify CLT floor opening dimensions and edge conditions
- Confirm door size matches drawings
- Ensure CLT panel is dry, level, and structurally sound
- Verify blocking is installed where required

3.2 Installation

- Install per manufacturer's instructions and CLT best practices
- Set frame level, square, and flush with CLT floor surface
- Fasten through anchor angles into CLT using approved structural screws
- Seal perimeter between J-channel and CLT with elastomeric sealant
- Connect drain coupling only if required
- Verify smooth operation of cover and hold-open arm

- Touch up field welds or abrasions with rust-inhibitive primer

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3.3 Field Quality Control

- Operate door to confirm smooth opening and closing
- Verify hardware and lift mechanisms function properly
- Inspect sealant joints and CLT edge protection

3.4 Cleaning & Protection

- Clean surfaces with manufacturer-approved cleaners
- Protect door from construction traffic and debris
- Remove protective coverings at project closeout

SECTION 08 56 53 — BULLET-RESISTANT STOREFRONT SYSTEMS

BR450-4 GLAZING + BALLISTIC ALUMINUM FRAMING

UL 752 LEVEL 4 SYSTEM

PART 1 — GENERAL

1.1 Summary

Provide a complete **ballistic-resistant aluminum storefront system**, including:

- BR450-4 UL 752 Level 4 ballistic glazing
- Ballistic-rated aluminum storefront framing
- Glazing stops, anchors, sealants, and accessories
- Fully integrated system tested to UL 752 Level 4

1.2 References

- UL 752 — Standard for Bullet-Resisting Equipment
- ASTM C1036 — Flat Glass
- ASTM C1172 — Laminated Architectural Glass
- ASTM E1300 — Structural Performance of Glass
- ASTM E283 / E330 / E331 — Air, structural, and water performance
- Manufacturer’s ballistic storefront documentation

1.3 Submittals

- Product data for ballistic glazing and framing
- UL 752 Level 4 certification
- Shop drawings showing mullions, anchors, and glazing thickness
- Samples of frame finish and glazing edge finish
- Warranty documentation

1.4 Quality Assurance

- Manufacturer specializing in ballistic storefront systems

- Installer trained in ballistic glazing installation
- All components from a single manufacturer or approved equal to ensure ballistic continuity
- Mockup: Minimum 4'×4' storefront section

1.5 Delivery, Storage, and Handling

- Deliver glazing in protective crates
- Store vertically on padded racks
- Protect aluminum framing from scratches and deformation
- Do not remove protective films until installation

PART 2 — PRODUCTS

2.1 Manufacturer

Action Bullet Resistant, Inc. — ballistic storefront systems (from your active tab)
Or approved equal meeting all ballistic and structural requirements.

2.2 Ballistic Glazing — BR450-4 (UL 752 Level 4)

A. Ballistic Rating

- UL 752 Level 4
- Resists **.30-06 rifle**, 180-grain, 2,540 fps
- No penetration, no spall toward protected side

B. Construction

- Laminated glass/polycarbonate composite
- Glass strike face
- Polycarbonate interior with abrasion-resistant coating
- Multi-layer interlayers for energy absorption and spall control

C. Thickness

- Approx. **1-3/8" to 1-1/2"**

D. Optical Quality

- Clear, low-distortion viewing
- UV-resistant polycarbonate interior
- Optional low-iron glass

E. Edges

- Sealed, polished, or sanded edges
- Compatible with dry-glaze or wet-glaze systems

2.3 Ballistic Aluminum Storefront Framing

A. System Description

Provide a **ballistic-rated aluminum storefront system** designed to:

- Accept BR450-4 glazing
- Resist UL 752 Level 4 ballistic threats
- Prevent bypass penetration at mullions and anchors
- Integrate with adjacent ballistic wall and door systems (if present)

B. Frame Construction

- Heavy-wall aluminum profiles
- Internal ballistic armor reinforcement
- Welded or mechanically reinforced corners
- Deep glazing pockets for thick ballistic glass

C. Performance Requirements

- UL 752 Level 4 ballistic resistance
- Structural performance per ASTM E330
- Air infiltration per ASTM E283
- Water penetration per ASTM E331

D. Finish

- Color to be selected from standard colors available

2.4 Accessories

- Ballistic-rated glazing tape or setting blocks
- Non-hardening glazing sealant compatible with polycarbonate
- Security fasteners
- Mullion reinforcement plates
- Ballistic-rated anchors
- Interior anti-spall film (optional)

2.5 Warranty

- **5-year manufacturer warranty** on glazing and framing
- Covers delamination, optical defects, and ballistic performance

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PART 3 — EXECUTION

3.1 Examination

- Verify openings are plumb, square, and reinforced
- Confirm substrate supports ballistic loads
- Ensure rough openings match shop drawings

3.2 Installation

- Install framing plumb and level per manufacturer instructions
- Anchor frames with ballistic-rated fasteners
- Install BR450-4 glazing using approved setting blocks and spacers
- Maintain required edge clearances
- Seal glazing with compatible sealants

- Ensure strike face is oriented outward
- Protect glazing during installation

3.3 Field Quality Control

- Inspect glazing for chips, cracks, or delamination
- Verify mullion reinforcement and anchor placement
- Confirm ballistic continuity at all joints
- Check gasket compression and sealant integrity

3.4 Cleaning & Protection

- Clean glazing with manufacturer-approved cleaners
- Do not use ammonia-based cleaners on polycarbonate
- Protect installed storefront from construction damage

SECTION 09 90 00 — SURFACE PREPARATION OF EXISTING STEEL FOR REPAINTING

PART 1 — GENERAL

1.1 Summary

Provide all labor, materials, and equipment required to:

- Strip existing coatings from exposed steel framing
- Remove rust, scale, contaminants, and loose paint
- Prepare steel surfaces to receive new protective coatings
- Protect adjacent construction during preparation and cleaning

1.2 References

- **SSPC-SP 1** — Solvent Cleaning
- **SSPC-SP 2** — Hand Tool Cleaning
- **SSPC-SP 3** — Power Tool Cleaning
- **SSPC-SP 6** — Commercial Blast Cleaning
- **SSPC-PA 1** — Shop, Field, and Maintenance Painting
- **ASTM D4258** — Surface Cleaning of Concrete and Masonry (if adjacent surfaces require protection)

1.3 Submittals

- Surface preparation plan describing:
    - Methods of paint removal
    - Containment and collection of debris
    - Proposed SSPC preparation level
- Safety data sheets (SDS) for solvents and cleaning agents
- Waste disposal plan for removed coatings and debris

1.4 Quality Assurance

- Contractor experienced in steel surface preparation and repainting
- Comply with environmental regulations for dust, debris, and lead-based paint (if present)
- Perform test areas to confirm acceptable preparation level

1.5 Protection

- Protect adjacent surfaces, equipment, and finishes from dust, abrasion, and overspray
- Provide temporary enclosures where required
- Prevent debris from entering building systems or occupied areas

PART 2 — PRODUCTS

2.1 Materials

- Solvents: Comply with **SSPC-SP 1**
- Abrasives: Clean, dry, and suitable for achieving specified blast profile
- Power-tool attachments: Wire wheels, needle scalers, grinders with dust collection
- Cleaning agents: Non-ionic detergents or approved degreasers
- Rags, brushes, scrapers, and hand tools

2.2 Equipment

- Power tools for mechanical cleaning
- Abrasive blasting equipment (if specified)
- HEPA-filtered vacuums
- Containment systems for dust and debris
- Drop cloths, masking materials, and protective sheeting

2.3 Surface Preparation Levels

Unless otherwise indicated:

- **Light rust and intact paint:** SSPC-SP 2 or SP 3
- **Moderate corrosion:** SSPC-SP 3
- **Severe corrosion or full coating removal:** SSPC-SP 6 (Commercial Blast Cleaning)

Final preparation level shall be as shown on drawings or directed by Architect.

PART 3 — EXECUTION

3.1 Examination

- Inspect existing steel for corrosion, pitting, and coating failure
- Identify areas requiring full coating removal
- Report structural deterioration prior to beginning work

3.2 Preparation

1. **Cleaning**
    - Remove oil, grease, and contaminants per **SSPC-SP 1**
    - Wash surfaces with detergent and rinse thoroughly
2. **Coating Removal**
    - Remove loose, peeling, or blistered paint by hand or power tools
    - Use chemical strippers only where approved
3. **Rust and Scale Removal**
    - Perform hand or power-tool cleaning per **SSPC-SP 2 or SP 3**
    - Where specified, abrasive blast clean to **SSPC-SP 6**
4. **Surface Profile**
    - Achieve uniform surface profile suitable for primer adhesion

- Feather edges of remaining sound paint

3.3 Field Quality Control

- Inspect surfaces for cleanliness, profile, and remaining contaminants
- Verify no loose paint, rust, or scale remains
- Ensure surfaces are dry and free of dust prior to priming
- Obtain Architect's approval before applying new coatings

3.4 Cleaning & Disposal

- Collect and dispose of debris, dust, and removed coatings per regulations
- Clean adjacent surfaces affected by preparation work
- Remove temporary protection after completion

SECTION 09 91 23 — INTERIOR PAINTING

PART 1 — GENERAL

1.1 Summary

Provide all labor, materials, and equipment required to:

- Prepare and paint **interior metal frames and accessories**, including:
    - Hollow metal door frames
    - Steel trim, angles, brackets, and exposed metal accessories
    - Miscellaneous interior ferrous metals
- Apply a complete Sherwin-Williams coating system
- Protect adjacent surfaces during preparation and painting

1.2 References

- SSPC-SP 1 — Solvent Cleaning
- SSPC-SP 2 — Hand Tool Cleaning
- SSPC-SP 3 — Power Tool Cleaning
- SSPC-PA 1 — Shop, Field, and Maintenance Painting
- ASTM D3359 — Adhesion Testing
- Manufacturer’s published product data (Sherwin-Williams)

1.3 Submittals

- Product data for primer and finish coats
- Color and sheen samples
- Surface preparation plan
- VOC compliance documentation

1.4 Quality Assurance

- Applicators experienced in architectural painting
- All materials for each coating system from **Sherwin-Williams**
- Mock-ups required where directed by Architect

1.5 Delivery, Storage, and Handling

- Deliver materials in unopened, labeled containers
- Store per manufacturer's recommendations
- Protect materials from freezing, moisture, and contamination

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PART 2 — PRODUCTS

2.1 Manufacturer

- **Sherwin-Williams Company**
  Or approved equal meeting all performance requirements.

2.2 Coating System for Interior Metal (Ferrous Substrates)

Provide a **two-coat or three-coat Sherwin-Williams system**, depending on exposure and design intent.

A. Primer (Metal)

- **Sherwin-Williams Pro Industrial Pro-Cryl® Universal Primer**
  - Water-based acrylic
  - Corrosion-resistant
  - Fast-drying
  - DFT: 2–3 mils

B. Finish Coat (Standard Interior)

- **Sherwin-Williams Pro Industrial™ Acrylic Dryfall**
  or

- **Sherwin-Williams Pro Industrial™ Waterborne Acrylic**
    - Smooth, durable architectural finish
    - Low odor, low VOC
    - Sheen: As selected by Architect
    - DFT: 2–3 mils per coat

C. Premium Finish Option (Higher Durability)

- **Sherwin-Williams Pro Industrial™ Urethane Alkyd Enamel**
    - Hard, durable finish for high-touch areas
    - DFT: 2–3 mils

2.3 Accessories

- Sherwin-Williams cleaners, thinners, and touch-up materials
- Caulking and sealants compatible with paint system
- Abrasives, sandpaper, and cleaning pads

PART 3 — EXECUTION

3.1 Examination

- Verify metal surfaces are clean, dry, and free of oil, rust, and contaminants
- Confirm frames are installed and fastened prior to painting
- Report defects such as dents, weld spatter, or damaged galvanizing

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3.2 Surface Preparation

1. **Cleaning**
    - Remove oil and contaminants per SSPC-SP 1
2. **Rust and Loose Paint Removal**
    - SSPC-SP 2 (hand tool) or SP 3 (power tool) as required

3. **Surface Conditioning**
    - Feather edges of existing coatings
    - Sand glossy surfaces to promote adhesion
4. **Protection**
    - Mask adjacent surfaces
    - Protect hardware, glazing, and finished surfaces

3.3 Application

- Apply coatings per Sherwin-Williams written instructions
- Maintain required film thickness for each coat
- Apply in a clean, dust-free environment
- Ensure uniform color, sheen, and texture
- Allow proper drying and curing between coats

3.4 Field Quality Control

- Inspect for runs, sags, pinholes, and overspray
- Verify adhesion per ASTM D3359 if required
- Touch up damaged or thin areas

3.5 Cleaning & Protection

- Remove masking and overspray
- Clean adjacent surfaces
- Protect finished coatings from damage until project closeout

SECTION 09 97 13 — PAINTING OF EXPOSED STEEL STRUCTURES

HIGH-PERFORMANCE COATING SYSTEM FOR EXPOSED STEEL FRAME

PART 1 — GENERAL

1.1 Summary

Provide all labor, materials, and equipment required to:

- Clean, prepare, and paint **exposed structural steel framing**
- Apply a **high-performance industrial coating system** suitable for architectural exposure
- Protect adjacent surfaces during preparation and painting
- Deliver a uniform, durable, visually consistent finish

1.2 References

- SSPC-SP 1 — Solvent Cleaning
- SSPC-SP 2 — Hand Tool Cleaning
- SSPC-SP 3 — Power Tool Cleaning
- SSPC-SP 6 — Commercial Blast Cleaning
- SSPC-PA 1 — Shop, Field, and Maintenance Painting
- AISC 303 — Code of Standard Practice
- Manufacturer's published coating system data (e.g., Tnemec high-performance coatings) tnemec.com

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1.3 Submittals

- Product data for primers, intermediate coats, and finish coats
- Surface preparation plan
- Color and sheen samples
- Manufacturer's installation instructions

- VOC compliance documentation

1.4 Quality Assurance

- Coating manufacturer with minimum 10 years experience in industrial coatings
- Applicators certified or approved by coating manufacturer
- All materials from a single manufacturer for each coating system

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1.5 Delivery, Storage, and Handling

- Deliver materials in unopened containers with labels intact
- Store per manufacturer's recommendations
- Protect materials from freezing, moisture, and contamination

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PART 2 — PRODUCTS

2.1 Manufacturers

Acceptable manufacturers include:

- **Tnemec Company, Inc.** (high-performance architectural and industrial coatings) tnemec.com
- Sherwin-Williams Protective & Marine
- PPG Protective Coatings
- Or approved equal

2.2 Coating System (Exposed Steel)

Provide a **three-coat high-performance system**:

A. Primer

- Type: Zinc-rich epoxy or moisture-cured zinc primer
- Performance: Corrosion-resistant, compatible with steel substrates

- Dry film thickness (DFT): 2–3 mils

B. Intermediate Coat

- Type: High-build epoxy or polyamide epoxy
- DFT: 4–6 mils

C. Finish Coat

- Type: Aliphatic polyurethane or acrylic polyurethane
- Characteristics: UV-resistant, color-stable, smooth architectural finish
- Sheen: As selected by Architect
- DFT: 2–3 mils

2.3 Color

- As selected by Architect from manufacturer's full range
- Custom colors permitted

2.4 Accessories

- Solvents, thinners, and cleaners as recommended by coating manufacturer
- Touch-up materials for field repairs

PART 3 — EXECUTION

3.1 Examination

- Verify steel is structurally complete and ready for coating
- Confirm surfaces are free of oil, grease, and contaminants
- Report defects such as pitting, rust, or weld spatter

3.2 Surface Preparation

1. **Cleaning**

- Remove oil and contaminants per SSPC-SP 1

2. **Rust and Coating Removal**
    - Light to moderate corrosion: SSPC-SP 2 or SP 3
    - Severe corrosion or full removal: SSPC-SP 6 (Commercial Blast Cleaning)
3. **Surface Profile**
    - Achieve profile recommended by coating manufacturer (typically 1.5–3.0 mils)
4. **Protection**
    - Mask adjacent surfaces
    - Protect mechanical/electrical systems from overspray

3.3 Application

- Apply coatings per manufacturer's written instructions
- Maintain required film thickness for each coat
- Apply in a clean, dust-free environment
- Ensure uniform color, sheen, and texture across all exposed surfaces
- Allow proper curing between coats

3.4 Field Quality Control

- Measure DFT using magnetic gauge
- Inspect for runs, sags, pinholes, and overspray
- Verify adhesion and uniformity
- Touch up damaged areas with matching materials

3.5 Cleaning & Protection

- Remove masking and overspray

- Clean adjacent surfaces
- Protect finished coatings from construction traffic and damage

SECTION 10 51 13 — WALL-MOUNTED WEAPONS LOCKERS

HANDGUN & RIFLE STORAGE LOCKERS (SURFACE-MOUNTED)

PART 1 — GENERAL

1.1 Summary

Provide complete **wall-mounted weapons storage systems**, including:

- 6-compartment surface-mounted handgun locker
- Surface-mounted rifle locker
- Individual locking mechanisms for each compartment
- Mounting hardware and accessories
- Factory-applied finishes and protective linings

1.2 References

- Manufacturer's published product data and installation instructions
- ANSI/BHMA A156 — Lock hardware standards
- NFPA 730 — Premises Security (informational)

1.3 Submittals

- Product data for handgun and rifle lockers
- Shop drawings showing mounting configuration and clearances
- Finish samples (powder-coat colors)
- Warranty documentation

1.4 Quality Assurance

- Manufacturer specializing in weapons storage systems
- Installer experienced with secure wall-mounted equipment
- All units from a single manufacturer to ensure uniformity

1.5 Delivery, Storage, and Handling

- Deliver lockers in manufacturer's protective packaging

- Store indoors, protected from moisture and impact
- Do not remove protective film until installation

PART 2 — PRODUCTS

2.1 Manufacturer

Spacesaver Corporation — Wall-Mounted Gun & Rifle Lockers
Product information referenced from your active tab.
Or approved equal meeting all requirements.

2.2 6-Compartment Surface-Mounted Handgun Locker

A. Configuration

- Six individual handgun compartments
- Overall dimensions:
  - Width: **25"**
  - Height: **20-1/8"**
  - Depth: **8-1/2"** (surface-mounted only)
- Compartment interior: **5-3/16" H × 10-3/8" W**

B. Construction

- 16-gauge welded steel body and doors
- Fully welded construction
- Neoprene-lined shelves
- Powder-coat finish
- Pre-punched mounting holes

C. Mounting

- **Surface-mounted only**
- Secure to studs, masonry, or structural backing

D. Locking Options

- Individually keyed locks (master-keyable)
- Combination locks
- Digital keyless locks

E. Accessories

- Numbered door tags
- Tamper-resistant fasteners
- Master keying system

2.3 Surface-Mounted Rifle Locker

(Based on Spacesaver's wall-mounted long-gun locker line.)

A. Configuration

- Single or dual rifle compartment (select per drawings)
- Designed for long guns, patrol rifles, and shotguns
- Typical dimensions (varies by model):
    - Height: **40"–52"**
    - Width: **12"–18"**
    - Depth: **8-1/2"** (surface-mounted)

B. Construction

- 16-gauge welded steel body and door
- Full-length welded seams for rigidity
- Internal neoprene or rubber lining to protect firearms
- Vertical barrel rest and butt-stock support
- Powder-coat finish

C. Mounting

- **Surface-mounted only**
- Pre-punched mounting holes

- Secure to studs, masonry, or structural backing

D. Locking Options

- Keyed lock (master-keyable)
- Combination lock
- Digital keypad lock
- Optional: Dual-lock configuration for enhanced security

E. Accessories

- Adjustable barrel brackets
- Numbered door tags
- Tamper-resistant fasteners

PART 3 — EXECUTION

3.1 Examination

- Verify wall structure can support locker weight and loading
- Confirm mounting height and clearances with Owner
- Ensure wall is plumb and free of obstructions

3.2 Installation

- Install per manufacturer's instructions
- Anchor lockers securely to wall framing or masonry
- Ensure units are level, plumb, and tight to wall surface
- Verify all doors open and close freely
- Test all locking mechanisms

3.3 Cleaning & Protection

- Clean surfaces with manufacturer-approved cleaners

- Protect installed lockers from construction damage
- Touch up minor finish scratches with matching paint

3.4 Closeout

- Provide keys, codes, or digital access instructions to Owner
- Deliver maintenance and operation manuals

SECTION 11 30 00 — APPLIANCES

MULTI-APPLIANCE SPECIFICATION INCLUDING SUMMIT FF1532BIF & LG MSER0990S

PART 1 — GENERAL

1.1 Summary

Provide all appliances shown on drawings and specified herein, including:

- **15" undercounter refrigerator — Summit FF1532BIF**
- **Countertop microwave — LG MSER0990S**
- All required installation accessories, supports, and electrical connections

1.2 References

- NEC (National Electrical Code)
- UL/ETL listings for each appliance
- Manufacturer installation and operation manuals

1.3 Submittals

- Product data for each appliance
- Shop drawings showing clearances, ventilation, and electrical requirements
- Installation instructions
- Warranty documentation

1.4 Quality Assurance

- Appliances shall be new, factory-assembled, and free of defects
- Installation performed by qualified personnel
- Electrical work performed by licensed electrician

1.5 Delivery, Storage, and Handling

- Deliver appliances in original packaging
- Store indoors, protected from moisture and impact
- Do not remove packaging until installation

PART 2 — PRODUCTS

2.1 Undercounter Refrigerator — Summit FF1532BIF

A. Manufacturer

Summit Appliance
Model: **FF1532BIF**

B. Description

- 15" wide built-in/freestanding all-refrigerator
- **Panel-ready door** for custom cabinetry
- **Frost-free operation**
- **Digital thermostat**
- **3.0 cu. ft. capacity**
- **Front-breathing** for true built-in installation

C. Dimensions

- Width: **14.75"**
- Height: **34.0"**
- Depth: **22.75"** (36.25" with door open)

D. Features

- Adjustable glass shelves
- Door storage shelves
- LED interior lighting
- Reversible door
- Leveling legs
- Sabbath mode

E. Electrical

- 115V, 60 Hz
- 1.4 amps
- Factory-installed power cord

F. Options

- Factory-installed lock
- Left-hand door swing
- Latch kit
- NIST-calibrated temperature logger

2.2 Countertop Microwave — LG MSER0990S

(Data sourced from your active tab ajmadison.com)

A. Manufacturer

LG
Model: **MSER0990S**

B. Description

- **18" countertop microwave**
- **0.9 cu. ft. capacity**
- **1,000-watt cooking power**
- NeoChef™ Smart Inverter
- Sensor Cook
- SmoothTouch™ glass controls
- LED lighting
- EasyClean® interior
- Child lock

C. Dimensions

- Width: **18"**

- Depth: **14-1/2"**
- Height: **11"**

D. Electrical

- 120V
- 10 amps
- 1,040 watts

E. Finish

- Stainless steel exterior

PART 3 — EXECUTION

3.1 Examination

- Verify rough-in dimensions and clearances
- Confirm electrical outlet locations and circuit capacities
- Ensure cabinetry is level and structurally adequate

3.2 Installation

- Install appliances per manufacturer instructions
- Maintain required ventilation for refrigerator and microwave
- Level refrigerator using adjustable legs
- Install custom panel on FF1532BIF per manufacturer template
- Connect appliances to dedicated electrical circuits
- Test operation of all appliances

3.3 Cleaning & Protection

- Remove packaging and clean surfaces
- Protect appliances from construction damage

- Turn over manuals, keys, and warranty documents to Owner

SECTION 12 36 61 — SOLID SURFACE COUNTERTOPS

CORIAN® COUNTERTOP WITH INTEGRAL SINK

PART 1 — GENERAL

1.1 Summary

Provide a complete **solid-surface countertop system**, including:

- Corian® solid-surface countertop
- Factory-fabricated **integral Corian® sink**
- Backsplashes, edge profiles, and cutouts
- Adhesives, supports, and installation accessories

1.2 References

- Corian® fabrication and installation guidelines
- ANSI/ICPA SS-1 — Solid Surface Material Standard
- ASTM E84 — Surface Burning Characteristics
- NSF/ANSI 51 — Food Equipment Materials

1.3 Submittals

- Product data for Corian® sheet material and integral sink
- Shop drawings showing dimensions, cutouts, seams, and supports
- **Color samples from full Corian® color range**
- Warranty documentation

1.4 Quality Assurance

- Fabricator certified by Corian®/DuPont
- Installer experienced with solid-surface fabrication
- All components from a single manufacturer to ensure color match

1.5 Delivery, Storage, and Handling

- Deliver materials in manufacturer’s protective packaging

- Store flat, supported, and protected from moisture and UV exposure
- Handle to prevent cracking, chipping, or warping

PART 2 — PRODUCTS

2.1 Manufacturer

- **Corian® Solid Surface** by DuPont
  Or approved equal meeting all performance requirements.

2.2 Solid Surface Countertop Material

A. Material

- Homogeneous, non-porous Corian® solid surface
- Minimum thickness: **½ inch**
- **Color: Selected by Architect from *all available Corian® colors***
  - Includes full standard, premium, and designer collections
- Finish: Matte, semi-gloss, or high-gloss as specified

B. Performance Requirements

- Complies with ANSI/ICPA SS-1
- Class A flame-spread rating per ASTM E84
- Resistant to stains, moisture, and microbial growth
- Seamless appearance at joints

2.3 Integral Sink

A. Material

- Factory-molded Corian® solid-surface sink
- **Color: Match or coordinate with selected Corian® countertop color**
- Seamless, coved transition between sink and countertop

B. Configuration

- Single-bowl, double-bowl, or lavatory style as shown on drawings
- Overflow and drain openings factory-formed

C. Fabrication

- Sink bonded to underside of countertop using Corian®-approved adhesive
- Interior corners smooth and radiused
- No visible seams on finished surface

2.4 Accessories

- Coved or straight backsplash (4" minimum unless noted otherwise)
- Edge profiles: Eased, bullnose, bevel, or custom
- Cutouts for faucets, soap dispensers, and accessories
- Corian® color-matched seam adhesive
- Moisture-resistant plywood substrate where required

2.5 Warranty

- Manufacturer's **10-year limited warranty**
- Fabricator/installer workmanship warranty (1 year minimum)

PART 3 — EXECUTION

3.1 Examination

- Verify cabinetry, supports, and wall conditions are level and secure
- Confirm plumbing rough-ins align with sink configuration
- Report irregularities before installation

3.2 Fabrication

- Fabricate countertops per Corian® guidelines
- Provide smooth, inconspicuous seams
- Form integral sink with seamless transition
- Provide cutouts with radiused corners to prevent cracking

3.3 Installation

- Install countertops level and fully supported
- Bond seams using color-matched Corian® adhesive
- Secure integral sink per manufacturer's instructions
- Seal joints at walls with mildew-resistant silicone
- Protect surfaces during remaining construction

3.4 Field Quality Control

- Inspect seams for smoothness and color match
- Verify sink bond is continuous and secure
- Ensure countertop is free of scratches, pits, or defects

3.5 Cleaning & Protection

- Clean surfaces with manufacturer-approved cleaners
- Protect installed countertops from impact and construction debris
- Remove protective film at project closeout

SECTION 26 05 33 — ARCHITECTURAL EXPOSED CONDUIT

PAINTED, EXPOSED ELECTRICAL CONDUIT INSTALLED IN A NEAT AND TIDY MANNER

PART 1 — GENERAL

1.1 Summary

Provide **architectural-grade exposed electrical conduit systems**, including:

- Exposed EMT, RMC, IMC, FMC, and LFMC
- Conduit fittings and accessories
- Supports, hangers, and fasteners
- Surface-mounted junction boxes and device boxes
- Field painting of conduit and fittings

All conduit shall be installed **neatly, intentionally, and with a high level of craftsmanship** suitable for exposed architectural conditions.

1.2 References

- NEC (NFPA 70) — National Electrical Code
- UL 797 — Electrical Metallic Tubing
- UL 6 — Rigid Metal Conduit
- ANSI C80 Series — Conduit Standards
- NEMA FB 1 — Conduit Fittings
- SSPC-SP Standards — Surface Preparation for Steel (for painted conduit)

1.3 Submittals

- Product data for conduit, fittings, and supports
- Samples of exposed fittings and junction boxes
- Paint color and sheen selections (if conduit is to be painted)

- Layout drawings for exposed conduit routing where shown or required

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1.4 Quality Assurance

- All conduit and fittings shall be UL-listed
- Installers shall be licensed electricians experienced with **architectural exposed conduit work**
- All exposed conduit shall be installed **straight, level, plumb, and parallel/perpendicular to architectural features**

1.5 Delivery, Storage, and Handling

- Deliver conduit in manufacturer's packaging
- Store off the ground, protected from moisture and damage
- Replace dented, kinked, or scratched conduit

PART 2 — PRODUCTS

2.1 Conduit Types (Exposed Work)

A. Electrical Metallic Tubing (EMT)

- Primary conduit for exposed interior architectural use
- Galvanized steel, UL 797
- Compression-type fittings only (no set-screw fittings for exposed work)

B. Rigid Metal Conduit (RMC) / Intermediate Metal Conduit (IMC)

- Use where conduit is subject to impact or where required by code
- Hot-dip galvanized steel

C. Flexible Metal Conduit (FMC)

- Use only at equipment connections
- Keep lengths short and concealed where possible

D. Liquidtight Flexible Metal Conduit (LFMC)

- Use only where required by equipment or damp locations

2.2 Fittings and Accessories

- All fittings for exposed work shall be:
    - **Compression-type**, steel or malleable iron
    - **Matching finish** to conduit
    - **Minimal profile** for clean appearance
- Junction boxes:
    - Surface-mounted, square-cornered steel boxes
    - Painted to match conduit unless otherwise noted
- Conduit bodies:
    - Use only where absolutely necessary
    - Match conduit finish

2.3 Supports and Hangers

- Steel straps, clamps, and hangers
- Spacing per NEC or closer for visual alignment
- All supports aligned on a common centerline
- Exposed fasteners to match conduit finish

2.4 Finish

- **Factory galvanized finish** for conduit and fittings
- Field painting where indicated:
    - Clean and prime per SSPC-SP standards
    - Topcoat per Section 09 90 00
    - **Color as selected by Architect**

PART 3 — EXECUTION

3.1 Examination

- Verify routing, clearances, and coordination with other exposed systems
- Confirm alignment with architectural features such as beams, CLT panels, and lighting layouts

3.2 Installation

- Install conduit **straight, level, plumb, and parallel/perpendicular to building lines**
- Maintain consistent offsets, spacing, and bend radii
- Use factory elbows where possible; field bends must be smooth and uniform
- Group parallel conduits with consistent spacing
- Avoid unnecessary bends, offsets, and junction boxes
- Keep flexible conduit concealed unless otherwise approved
- Cap open conduit ends during construction

Craftsmanship Requirements:

- No dents, kinks, scratches, or tool marks
- All fittings oriented consistently
- All straps and supports aligned on a common axis
- Conduit shall appear intentional, orderly, and visually coordinated

3.3 Field Quality Control

- Inspect for alignment, spacing, and visual consistency
- Verify all fittings are tight and properly supported
- Confirm grounding continuity through metallic conduit systems

3.4 Cleaning & Protection

- Clean conduit surfaces prior to painting
- Protect finished conduit from damage during construction
- Touch up paint where scratched or marred

SECTION 27 11 16 — SERVER RACK ENCLOSURES

48"-TALL PAINTED STEEL SERVER RACK

PART 1 — GENERAL

1.1 Summary

Provide a **48"-tall steel server rack enclosure**, including:

- Fully enclosed steel cabinet
- Front and rear locking doors
- Adjustable EIA-310-compliant mounting rails
- Cable-management features
- Ventilation panels and perforated doors
- Leveling feet and casters
- All accessories required for a complete installation

1.2 References

- EIA-310 — Standard for rack-mount equipment
- UL 2416 — Standard for IT equipment racks
- ANSI/TIA-569 — Pathways and spaces
- NEC (NFPA 70) — Electrical requirements for IT equipment

1.3 Submittals

- Product data for rack enclosure and accessories
- Shop drawings showing:
    - Rack height, width, and depth
    - Rail spacing and adjustment range
    - Door swing and clearance requirements

- Manufacturer's installation instructions
- Warranty documentation

1.4 Quality Assurance

- Manufacturer specializing in IT rack enclosures
- Rack shall comply with EIA-310 mounting standards
- All components from a single manufacturer for uniformity

1.5 Delivery, Storage, and Handling

- Deliver racks fully assembled or knocked-down as specified
- Store indoors, protected from moisture and impact
- Do not install until space is conditioned and dust-free

PART 2 — PRODUCTS

2.1 Manufacturer

- APC, Chatsworth, Middle Atlantic, or approved equal

2.2 Rack Construction

A. General

- Height: **48 inches (nominal)**
- Rack Units: **Approximately 24 RU** (varies by manufacturer)
- Width: 19" EIA-310 compliant mounting
- Depth: As shown on drawings or approved by IT designer

B. Frame

- Welded or bolted steel frame
- Black powder-coat finish

- Static load rating: **Minimum 1500 lb**
- Dynamic load rating: **Minimum 800 lb**

C. Doors

- Front door:
    - Perforated steel for ventilation
    - Locking, reversible swing
- Rear door:
    - Solid or perforated steel
    - Locking, split or full height

D. Mounting Rails

- Four vertical rails
- EIA-310 hole pattern
- Adjustable in 0.4" increments (similar to APC design)
- Numbered RU markings

E. Cable Management

- Top and bottom cable-entry knockouts
- Side vertical cable channels (if provided)
- Brush-sealed openings (optional)

F. Ventilation

- Minimum 60% perforation on doors
- Optional fan tray or roof-mounted exhaust

G. Accessories

- Casters and leveling feet
- Grounding bar
- Mounting hardware (cage nuts, screws)
- Power distribution unit (PDU) mounting brackets

PART 3 — EXECUTION

3.1 Examination

- Verify floor is level and capable of supporting rack load
- Confirm clearances for door swing and equipment depth
- Coordinate with electrical and data cabling requirements

3.2 Installation

- Install rack plumb, level, and square
- Anchor to floor where required by code or seismic design
- Adjust mounting rails to match equipment depth
- Install cable-management accessories as indicated
- Bond rack to building grounding system

3.3 Field Quality Control

- Verify doors open and close smoothly
- Confirm rails are secure and properly aligned
- Check that ventilation paths are unobstructed
- Inspect finish for scratches or damage

3.4 Cleaning & Protection

- Clean surfaces with manufacturer-approved cleaners
- Protect rack from dust and construction debris
- Remove protective coverings at project closeout

SECTION 31 00 00 — EARTHWORK FOR CONCRETE FOOTINGS AND SLABS

PART 1 — GENERAL

1.1 Summary

Work includes all site preparation required to support concrete footings and slabs, including:

- Excavation for footings, grade beams, and slabs-on-grade
- Subgrade preparation and proof-rolling
- Placement and compaction of structural fill and granular base
- Backfilling around foundations
- Dewatering and temporary drainage
- Protection of adjacent structures and utilities

1.2 References

- ASTM D698 — Standard Proctor Density
- ASTM D1557 — Modified Proctor Density
- ASTM D2487 — Soil Classification
- ASTM D2922 / D6938 — Field Density Testing
- OSHA 29 CFR 1926 — Excavation Safety
- Local building code requirements

1.3 Submittals

- Material data for structural fill and granular base
- Proposed excavation and shoring methods (if required)
- Compaction test reports
- Dewatering plan (if applicable)

1.4 Quality Assurance

- Work performed by experienced excavation contractor

- Compaction testing by independent geotechnical engineer
- Comply with OSHA trenching and excavation requirements

1.5 Project Conditions

- Verify locations of underground utilities before excavation
- Maintain site drainage to prevent water accumulation
- Protect adjacent structures, pavements, and vegetation

PART 2 — PRODUCTS

2.1 Structural Fill

- Well-graded granular material free of organic matter
- Maximum particle size: 3"
- Plasticity Index (PI): 0–6
- Compaction: 95% of ASTM D698 (or as specified by geotechnical report)

2.2 Granular Base (Under Slabs)

- Crushed stone or gravel
- Gradation: ASTM No. 57 or No. 67 stone (or local equivalent)
- Thickness: As shown on drawings (typically 4"–8")

2.3 Sand Bedding (Optional)

- Clean, washed sand
- Used only where specified beneath vapor barrier

2.4 Vapor Barrier (If Required Under Slabs)

- 10–15 mil polyethylene or reinforced vapor retarder
- ASTM E1745 Class A

2.5 Geotextile Fabric (If Required)

- Non-woven separation fabric
- Minimum grab tensile strength: 120 lbs

2.6 Water for Conditioning

- Clean, potable water for moisture conditioning of soils

PART 3 — EXECUTION

3.1 Examination

- Verify staking and layout before excavation
- Confirm soil bearing capacity matches geotechnical recommendations
- Notify Architect/Engineer of unsuitable soils

3.2 Excavation

- Excavate to lines and grades shown on drawings
- Over-excavate soft or unsuitable soils and replace with structural fill
- Maintain stable side slopes or provide shoring
- Keep excavation free of standing water

3.3 Subgrade Preparation

- Proof-roll subgrade with loaded truck or roller
- Remove pumping or yielding soils
- Compact subgrade to **95% of ASTM D698**
- Provide smooth, level surface for concrete placement

3.4 Structural Fill Placement

- Place fill in lifts not exceeding 8" loose thickness
- Compact each lift to **95% of ASTM D698**
- Do not place fill on frozen or saturated subgrade

3.5 Granular Base for Slabs

- Place granular base to required thickness
- Compact to **95% of ASTM D698**
- Grade to uniform plane to support vapor barrier and reinforcement

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3.6 Dewatering

- Provide pumps, trenches, and drainage as required
- Maintain dry conditions during concrete placement
- Do not allow water to undermine excavations

3.7 Backfilling

- Backfill only after concrete has achieved required strength
- Use structural fill or approved on-site material
- Compact in lifts to **95% of ASTM D698**
- Do not backfill against green concrete

3.8 Protection

- Protect excavations from erosion and collapse
- Maintain access for concrete trucks and equipment
- Repair settlement or damage caused by improper compaction

SECTION 32 31 13 — HIGH-SECURITY CHAIN LINK FENCING

WITH RAZOR WIRE & ANTI-CLIMB MESH

PART 1 — GENERAL

1.1 Summary

Provide a complete **high-security chain-link fencing system** including fabric, framework, anti-climb mesh, razor wire, fittings, gates, tensioning components, and all accessories required for a secure perimeter.

1.2 References

- ASTM A392 — Zinc-Coated Chain-Link Fabric
- ASTM F567 — Installation of Chain-Link Fence
- ASTM F1043 — Framework Requirements
- ASTM F1083 — Schedule 40 Steel Pipe
- ASTM F626 — Fence Fittings
- ASTM A153 — Hot-Dip Zinc Coating
- ASTM F1184 — Industrial Swing Gates
- ASTM F2200 — Automated Gate Safety (if applicable)

1.3 Submittals

- Product data for chain-link fabric, anti-climb mesh, razor wire, posts, rails, and fittings
- Shop drawings showing layout, post spacing, gate locations, and hardware
- Samples of fabric, razor wire, and fittings
- Manufacturer certifications for steel grades and coatings

1.4 Quality Assurance

- Installer with minimum 5 years' experience in secure-facility fencing
- All materials from a single manufacturer or approved equal
- Pre-installation meeting required for secure sites

1.5 Delivery, Storage, and Handling

- Deliver materials in manufacturer packaging
- Store above ground, protected from corrosion and deformation
- Replace damaged components immediately

PART 2 — PRODUCTS

2.1 Manufacturers

- Chain-link fittings and hardware consistent with the fittings catalog in your active tab (tension bands, brace bands, rail clamps, barbed-wire arms, etc.)
- Framework and fabric from recognized commercial fencing manufacturers

2.2 Chain-Link Fabric

- Height: **10 ft minimum**, **12 ft** preferred for secure facilities
- Mesh: **2" diamond**
- Wire gauge: **6-ga core**, **9-ga after coating**
- Coating:
  - **Galvanized Class 2** (2.0 oz/ft^2 zinc) **OR**
  - **PVC-coated over galvanized**
- Selvage: **Twisted/twisted** (security grade)

2.3 Anti-Climb Mesh (Secondary Fabric Layer)

Provide **high-security anti-climb mesh** installed on the secure side of the fence:

- Mesh opening: **1" × 1"** or **3/4" × 3/4"**
- Wire gauge: **9-ga minimum**
- Coating: Hot-dip galvanized or PVC-coated
- Height: Full fence height (to match chain-link fabric)
- Attachment: Stainless-steel ties or security fasteners at **6" o.c.** on all rails and posts
- Purpose: Prevents toe-holds and hand-holds for climbing

2.4 Razor Wire (Concertina Coil)

- Type: **Galvanized or stainless-steel razor ribbon**

- Coil diameter: **18" or 24"**
- Configuration:
    - **3-strand barbed-wire arms** with **single coil**
    - **6-strand arms** with **double-coil concertina** for maximum security
- Mounting:
    - Outward-facing **45° barbed-wire arms**
    - Arms and fittings from chain-link fittings catalog (barbed-wire arms, tension bands, etc.)
- Fastening: Stainless-steel clips at manufacturer spacing

2.5 Framework (Posts & Rails)

- Line posts: **Schedule 40 steel pipe**, ASTM F1083
- Terminal posts: **Schedule 40**, sized for load
- Top rail: **1.66" OD Schedule 40**
- Bracing:
    - Horizontal brace rails
    - Truss rods at terminal posts
- Finish: Hot-dip galvanized per ASTM A123/A153

2.6 Fittings & Hardware

(All available from the chain-link fittings catalog in your active tab.)

- Tension bands: Galvanized steel
- Brace bands: Galvanized steel
- Post caps: Pressed steel or aluminum
- Rail ends: Galvanized steel
- Tension wire: **7-ga galvanized**
- Tie wires: **11-ga galvanized** or PVC-coated
- Barbed-wire arms: 45° or vertical

- Fasteners: Stainless or galvanized steel

2.7 Gates

- Type: **Industrial-grade swing or slide gates**
- Frame: Welded Schedule 40 steel pipe
- Fabric: Match fence fabric + anti-climb mesh
- Razor wire: Continuous over gate top
- Hardware: Heavy-duty hinges, latches, rollers, and guides
- Optional: Card-access hardware, magnetic locks, or automated operators

2.8 Security Enhancements

- Anti-dig bottom rail or buried tension wire
- Grounding/bonding for electrical facilities
- Motion sensors or intrusion detection (if required by owner)

PART 3 — EXECUTION

3.1 Examination

- Verify property lines, grades, and underground utilities
- Confirm post locations and gate openings
- Ensure subgrade is stable and compacted

3.2 Installation

- Install per ASTM F567 and manufacturer instructions
- Set posts in concrete footings sized for wind and security loads
- Space line posts at **10 ft max**
- Install top rail continuously
- Stretch chain-link fabric to uniform tension
- Install anti-climb mesh on secure side
- Install bottom tension wire or bottom rail
- Install barbed-wire arms and razor wire coils

3.3 Razor Wire Installation

- Install barbed-wire arms at 45° outward angle
- Attach razor-wire coil to arms using stainless-steel clips
- Overlap coils per manufacturer requirements
- Ensure continuous coverage at corners and gates

3.4 Anti-Climb Mesh Installation

- Install mesh flush to chain-link fabric
- Secure with stainless-steel ties at **6" o.c.**
- Ensure no gaps larger than 1/2" at posts or rails
- Trim mesh cleanly around gates and hardware

3.5 Gate Installation

- Hang gates plumb and level
- Install anti-climb mesh and razor wire to match fence
- Adjust hinges for smooth operation
- Install facility-approved locking hardware

3.6 Field Quality Control

- Verify fabric tension, post plumbness, and hardware tightness
- Confirm razor wire height and angle
- Confirm anti-climb mesh is tight and gap-free
- Test gate operation and locking systems

3.7 Cleaning & Protection

- Remove debris and metal filings
- Touch up galvanized surfaces with zinc-rich coating
- Protect fence from construction damage