

LUMP SUM CONSTRUCTION



FOR

GENERAL CONTRACTOR SERVICES FLOODPROOFING A NON-RESIDENTIAL STRUCTURE

CITY OF FORT PIERCE BID NO. 2024-004

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AGREEMENT

THIS AGREEMENT (hereinafter the "Agreement" or "Contract") entered into this _____ day of _____, 2024 by and between **CITY OF FORT PIERCE, FLORIDA**, a municipal corporation (hereinafter the "CITY"), and **REMNANT CONSTRUCTION a LIMITED LIABILITY** corporation, with its principal address at **201 S. 2ND Street, Suite 100. Fort Pierce, FL, 34950**(hereinafter "CONTRACTOR").

WITNESSETH:

WHEREAS, the CITY wishes to contract for the project identified as **General Contractor Services- Floodproofing A Non-Residential Structure. Bid No. 2024-004, Fort Pierce, Florida**, and

WHEREAS, the CONTRACTOR has represented to the CITY that its staff is qualified to provide the Work required in this Agreement in a professional and timely manner as detailed in their General Contractor Services, Bid No. 2024-004 Bid Submission, and

WHEREAS, the CITY has relied upon the above representations by the CONTRACTOR, and

WHEREAS, the CITY's Representative and the Project Manager, as designated by the City Manager, have recommended that an agreement for aforesaid construction be entered into with the CONTRACTOR.

NOW, THEREFORE, for and in consideration of these premises, of the mutual covenants herein set forth, and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, the parties hereto hereby agree as follows:

ARTICLE 1 DOCUMENTS INCORPORATED BY REFERENCE

This Agreement is for Work to be completed on the renovation to an existing wood frame structure located along the northeast waterfront of a 1.89 Ac parcel known as the Little Jim's Bait & Tackle located at 601 North Causeway Drive, Fort Pierce, FL 34949 (hereinafter the "Project"). The work associated with floodproofing the exterior walls of the existing wood frame building per FEMA requirements with electrical, plumbing, and other appurtenances associated with the building construction in accordance with the construction plans for the project site. The Agreement further includes the Building Plans, Specific Purpose Survey, Electrical Plan, and the following:

1. Exhibit "A" – Invitation to Bid
2. Exhibit "B" – Instructions to Bidders
3. Exhibit "C" – Bid Forms
4. Exhibit "D" – Technical Specifications
5. Exhibit "E" - General Conditions

All of which are hereby incorporated herein by reference and made a part hereof (hereinafter collectively referred to as the "Contract Documents"). Any Change Orders, Construction

Change Directives, Directions for a Minor Modification in the Work issued by the CITY, and any other amendments executed by the CITY and the CONTRACTOR hereafter shall become and be a part of this Agreement. Documents not included or expressly contemplated in this Article 1 do not, and shall not, form any part of this Agreement. The Contract Documents are intended to be complementary, and a requirement in one document shall be deemed to be required in all documents. Where terms found in Exhibit "E," "General Conditions" conflict with this Agreement's terms, the Agreement terms shall prevail.]

ARTICLE 2 REPRESENTATIONS OF THE CONTRACTOR

In order to induce the CITY to execute this Agreement and recognizing that the CITY is relying thereon, the CONTRACTOR, by executing this Agreement, makes the following express representations to the CITY:

2(A) The CONTRACTOR is fully qualified to act as the general contractor for the Project and has, and shall maintain, any and all licenses, permits, or other authorizations necessary to act as the general contractor for, and to construct the Project.

2(B) The CONTRACTOR has become familiar with the Project sites and the local conditions under which the Project is to be constructed and operated.

2(C) The CONTRACTOR has received, reviewed, and examined all of the documents which make up this Contract, including, but not limited to all plans and specifications, and has found them to the best of its knowledge, to be complete, accurate, adequate, consistent, coordinated and sufficient for construction.

ARTICLE 3 INTENT AND INTERPRETATION

With respect to the intent and interpretation of this Contract, the CITY and the CONTRACTOR agree as follows:

3(A) This Agreement (along with its Exhibits), together with the CONTRACTOR'S and Surety's performance and payment bonds for the Project constitute the entire and exclusive agreements between the parties with reference to the Project, and said Agreement supersedes any and all prior discussions, communications, representations, understandings, negotiations, or agreements.

3(B) Anything that may be required, implied, or reasonably inferred by the documents which make up this Agreement, or any one or more of them, shall be provided by the CONTRACTOR for the Contract Price.

3(C) Nothing contained in this Contract shall create, nor be interpreted to create, privity or any other relationship whatsoever between the CITY and any person except the CONTRACTOR.

3(D) When a word, term, or phrase is used in this Agreement, it shall be interpreted or construed first, as defined herein; second, if not defined, according to its generally accepted meaning in the construction industry; and third, if there is no generally accepted meaning in the

construction industry, according to its common and customary usage.

3(E) Wherever this Agreement calls for "strict" compliance or conformance with the Contract Documents as to matters other than compliance with time limits, providing an updated schedule, or claim and change order procedures, the term shall mean within tolerances as described specifically in the Contract Documents, or if not specifically described, within industry standards and tolerances for deviation for the specific item or procedure in question.

3(F) The words "include," "includes," or "including," as used in this Agreement, shall be deemed to be followed by the phrase, "without limitation."

3(G) The listing herein of any items as constituting a material breach of this Agreement shall not imply that any other, non-listed item will not constitute a material breach of this Agreement.

3(H) The CONTRACTOR shall have a continuing duty to read, examine, review, compare, and contrast each of the documents which make up this Agreement, shop drawings, and other submittals and shall give written notice to the CITY of any conflict, ambiguity, error, or omission which the CONTRACTOR may find with respect to these documents, before proceeding with the affected work. The express or implied approval by the Project Manager, as designated by the City Manager, of any shop drawings or other submittals shall not relieve the CONTRACTOR of the continuing duties imposed hereby, nor shall any such approval be evidence of the CONTRACTOR's compliance with this Contract. The CITY has prepared documents for the Project, including the plans and specifications for the Project, which are accurate, adequate, consistent, coordinated and sufficient for construction. The CONTRACTOR shall not be liable to the CITY for damage resulting from errors, inconsistencies, or omissions in the Contract Documents unless the CONTRACTOR recognized, or reasonably should have recognized, such error, inconsistency, or omission and knowingly failed to report it to the CITY or Project Manager, as designated by the City Manager. If the CONTRACTOR performs any activity knowing it involves an error, inconsistency, or omission which was recognized, obvious, or reasonably should have been recognized, without such notice to the CITY, the CONTRACTOR shall assume responsibility for such performance and shall bear the costs for correction.

3(I) In the event of any conflict, discrepancy, or inconsistency among any of the documents which make up this Contract, the following shall control:

- (1) As between this document and the plans or specifications, this document shall govern.
- (2) In the case of any conflict, discrepancy, or inconsistency among any of the other Contract Documents, the CONTRACTOR shall notify the CITY immediately upon discovery of same for resolution.

ARTICLE 4 CONTRACTOR'S PERFORMANCE

The CONTRACTOR shall perform all of the work required, implied, or reasonably inferable from this Agreement including, but not limited to, the following:

4(A) The CONTRACTOR will complete the entire work described in this Contract and the Contract Documents, except as specifically identified therein as the work of other parties, in accordance with the terms herein, as may be amended from time to time.

4(B) The furnishing of any and all required surety bonds and insurance certificate(s) and endorsement(s) to the CITY.

4(C) The provision or furnishing, and prompt payment therefore, of labor, supervision, services, materials, supplies, equipment, fixtures, appliances, facilities, tools, transportation, storage, disposal, power, fuel, heat, light, cooling, or other utilities, required for construction and all necessary building permits and other permits or licenses required for the construction of the Project.

4(D) The creation and maintenance of a detailed and comprehensive copy of the drawings, specifications, addenda, Change Orders, and other modifications depicting all as-built construction. Said items shall be submitted to the CITY, along with other required submittals upon Completion of the Project, and receipt of same by the CITY shall be a condition precedent to final payment to the CONTRACTOR. The CONTRACTOR shall prepare and submit final as-built drawings to the CITY.

ARTICLE 5 TIME FOR CONTRACTOR'S PERFORMANCE; DELAYS

5(A) The CONTRACTOR shall commence the performance of this Agreement on the date set forth in the Notice to Proceed issued by the Project Manager, as designated by the City Manager, and shall diligently continue its performance to and until Completion of the Project. **The CONTRACTOR shall accomplish Substantial Completion within 90 calendar days and Final Completion in 120 calendar days of permits being obtained hereinafter the "Contract Time"**. By signing this Agreement, the CONTRACTOR agrees that the Contract Time is a reasonable time for accomplishing Completion of the Project. There will be no monetary early completion incentive. The CONTRACTOR shall submit its initial progress schedule in accord with Article 9(G) below.

5(B) The CONTRACTOR shall pay the CITY the sum of **\$250.00 per day** for each and every calendar day of unexcused delays in achieving Substantial Completion beyond the date set forth herein for Substantial Completion. Any sums due and payable hereunder by the CONTRACTOR shall be payable, not as a penalty, but as liquidated damages representing an estimate of delay damages likely to be sustained by the CITY, estimated at the time of executing this Agreement. When the CITY reasonably believes that Substantial Completion will be inexcusably delayed, the CITY shall be entitled, but not required, to withhold from any amounts otherwise due the CONTRACTOR an amount then believed by the CITY to be adequate to recover liquidated damages applicable to such delays. If and when the CONTRACTOR overcomes the delay in achieving Substantial Completion, or any part thereof, for which the CITY has withheld payment, the CITY shall promptly release to the CONTRACTOR those funds withheld, but no longer applicable, as liquidated damages.]

5(C) The term "Substantial Completion," as used herein, shall mean that point at which, as certified in writing by the CONTRACTOR and approved by the CITY, the Project is at a level of completion in strict compliance with this Agreement such that the CITY or its designees can enjoy beneficial use or occupancy and can legally occupy, use, or operate it in all respects, for

its intended purpose. Partial use or occupancy of the Project shall not result in the Project being deemed "substantially complete," and such partial use or occupancy shall not be evidence of Substantial Completion.

5(D) All limitations of time set forth herein are material and are of the essence of this Agreement.

5(E) CONTRACTOR agrees to punctually and diligently perform all parts of the Work at the time scheduled as provided herein. In this connection, CONTRACTOR agrees that it will keep himself continually informed of the progress of the job and will, upon its own initiative, confer with the CITY and the Project Manager, as designated by the City Manager, so as to plan its Work in coordinated sequence with the Work of the CITY and of others and so as to be able to expeditiously undertake and perform its Work at the time most beneficial to the entire Project. The CONTRACTOR will be liable for any loss, costs, or damages sustained by the CITY for delays in performing the Work hereunder, other than for excusable delays, as set forth in 5(F) below, for which CONTRACTOR may be granted a reasonable extension of time.

5(F) If the CONTRACTOR is delayed at any time in the progress of the Work by any separate contractor employed by the CITY, changes in the Work, wars, civil commotions, epidemics, public health emergencies, government regulations, labor disputes, fire, unusual delay in transportation, severe weather conditions, unavoidable casualties, delays specifically authorized by the CITY, or by causes beyond the CONTRACTOR's control, avoidance, or mitigation, and without the fault or negligence of the CONTRACTOR or any subcontractor or supplier at any tier, then the Contract Time shall be extended by Change Order for such reasonable time, if any, as the CITY may determine that such event has delayed the progress of the Work, or overall completion of the Work if the CONTRACTOR complies with the notice and documentation requirements set forth herein.

If the CONTRACTOR is delayed, obstructed, hindered, or interrupted for a period of time exceeding seven (7) consecutive calendar days by any act or neglect of the CITY, an adjustment shall be made for any increase in the direct cost of performance of this Agreement (excluding profit, extended home office overhead, incidental or consequential damages, or disruption damages) and the Agreement modified in writing accordingly. Delays without compensation to the CONTRACTOR as a direct result of an act or neglect of the CITY or Project Manager, as designated by the City Manager, cannot exceed forty-five (45) days in the aggregate over the term of the project. The CONTRACTOR must assert its right under this Article by giving written notice to the CITY, with a copy to the Project Manager, as designated by the City Manager, within ten (10) calendar days of the beginning of a delay, obstruction, hindrance, or interruption by the CITY. No adjustment shall be made for any delay, obstruction, hindrance, or interruption after final payment under this Agreement or to the extent that performance would have been so delayed, obstructed, hindered, or interrupted by any other cause, including, but not limited to, concurrent cause or fault or negligence of the CONTRACTOR, or for which an equitable adjustment is provided for or excluded under any other term or condition of this Agreement. The direct costs described above shall be limited to those direct costs attributable solely to this Project and shall be subject to documentation and verification of costs as required by the CITY. If unit prices are established in the Contract Documents or subsequently agreed upon, they shall form the basis for cost calculations under any claims for delay.

Any claim for extension of time shall be made in writing to the CITY, with a copy to the Project Manager, as designated by the City Manager, not more than ten (10) calendar days from

the beginning of the delay. The notice shall indicate the cause of delay upon the progress of Work. If the cause of the delay is continuing, the CONTRACTOR must give such written notice every ten (10) calendar days. Within ten (10) calendar days after the elimination of any such delay, the CONTRACTOR shall submit further documentation of the delay and a formal Change Order request for an extension of time for such delay.

The written request for a time extension shall state the cause of the delay, the number of calendar days extension requested, and such analysis and other documentation as is reasonably requested by the CITY or the Project Manager, as designated by the City Manager, to demonstrate a delay in the progress of the Work or the overall Project completion. If the CONTRACTOR does not comply with the above notice and documentation requirements, the claim for the delay shall be waived by the CONTRACTOR. The above notice and documentation requirements shall also be a condition precedent to the CONTRACTOR's entitlement to any extension of time.

Extensions of time will be the CONTRACTOR'S primary remedy for any and all delays, obstructions, hindrances, or interference. Payment or compensation for direct costs only (as set forth above) may be made to the CONTRACTOR for hindrances or delays solely caused by the CITY if such delays or hindrances are within the CITY's ability to control and are not partially caused by the CONTRACTOR or any of its agents, subcontractors, or others for whom it is responsible. No payment or compensation will be made for interference, obstructions, hindrances, or delays which are not solely caused by the CITY or which arise from the CITY's actions under Article 8.

Without limitation, the CITY's exercise of its rights under the changes clause, regardless of the extent or number of such changes, or the CITY's exercise of any of its remedies or any requirement to correct or re-execute defective work, shall not under any circumstances be construed as delays, hindrances, or interference compensable further than as described herein.

ARTICLE 6 CONTRACT PRICE AND CONTRACT PAYMENTS

6(A) Based on the Scope of Work, identified as **Bid No. 2024-004, General Contractor Services – Floodproofing A Non-Residential Structure**, all of which are hereby incorporated herein by reference and made a part hereof, the CONTRACTOR shall provide all labor and materials required to complete construction as prescribed in the aforementioned Drawings and Specifications, for the sum not to exceed: **\$266,048.00 Two Hundred Sixty-Six Thousand Forty – Eight Dollars and Zero Cents** (hereinafter the "Contract Amount").

6(B) Prior to review of the first Payment Request, the CONTRACTOR must submit to the CITY and receive the CITY's approval for the schedule of values apportioning the entire Contract Amount among the different elements of the Project (hereinafter the "Schedule of Values") for purposes of periodic and final payment. The Schedule of Values shall be presented in whatever format, with such detail including labor and material breakout, and backed up with whatever supporting information the CITY requests (see also the specifications for additional information). The CONTRACTOR shall not imbalance its Schedule of Values nor artificially inflate any element thereof. The violation of this provision by the CONTRACTOR shall constitute a material breach of this Agreement. The Schedule of Values will be utilized for the CONTRACTOR's Payment Requests but shall only be so utilized after it has been approved in writing by the CITY. |

6(C) The CITY shall pay the Contract Amount to the CONTRACTOR in accordance with the procedures set forth herein. On or before the tenth (10th) calendar day of each month after commencement of performance, but no more frequently than once monthly, the CONTRACTOR may submit a Payment Request for the period ending the last calendar day of the previous month (hereafter the "Payment Request"). Said Payment Request shall be in such format and include whatever supporting information as may be required by the CITY or the Project Manager, as designated by the City Manager.

Therein, the CONTRACTOR may request payment for ninety percent (90%) of that part of the Contract Amount allocable to Agreement requirements properly provided, labor, materials, and equipment properly incorporated in the Project, and materials or equipment necessary for the Project and properly stored at the Project site, or elsewhere if offsite storage is approved in writing by the CITY or Project Manager, as designated by the City Manager, less the total amount of previous payments received from the CITY. Payment for materials stored offsite shall be at the discretion of the CITY and if approved, the CONTRACTOR shall provide appropriate documentation to substantiate materials are stored in a bonded warehouse or facility, title or other proof of ownership has been transferred to the CITY, and that materials have been purchased and paid for by the CONTRACTOR. Copies of paid invoices must be submitted to the Project Manager, as designated by the City Manager, with Payment Request. Risk of loss shall be borne by, and insurance must be provided by, the CONTRACTOR while in storage and in transit. Hard cost of Builders Risk Insurance is to be paid by CONTRACTOR and such cost is not subject to CONTRACTOR'S fee.

Amounts reflected in Change Orders may be included in Payment Requests to the extent they are not in dispute and subject to final approval of cost to the CITY for such changes in the Work.

Each Payment Request shall be signed by the CONTRACTOR and shall constitute the CONTRACTOR'S representation that the quantity of Work has reached the level for which payment is requested, that the Work has been properly installed or performed in strict compliance with this Agreement, and that the CONTRACTOR knows of no reason why payment should not be made as requested.

Thereafter, the Project Manager, as designated by the City Manager, shall review the Payment Request and may also review the Work at the Project site or elsewhere to determine whether the quantity and quality of the Work is as represented in the Payment Request and is as required by this Agreement. The amount of each such payment shall be the amount approved for payment by the Project Manager, as designated by the City Manager, , less such amounts, if any, otherwise owing by the CONTRACTOR to the CITY or which the CITY shall have the right to withhold as authorized by this Agreement, subject to approval by the CITY. Approval of the CONTRACTOR'S Payment Requests shall not preclude the CITY from the exercise of any of its rights as set forth herein.

The submission by the CONTRACTOR of a Payment Request also constitutes an affirmative representation and warranty that all work for which the CITY has previously paid is free and clear of any lien, claim, or other encumbrance of any person whatsoever. As a condition precedent to payment, the CONTRACTOR shall, as required by the CITY, also furnish to the Project Manager, as designated by the City Manager, properly executed waivers of lien or claim, in a form acceptable to the CITY, from all subcontractors, material, men, suppliers, or others

having lien or claim rights, wherein said subcontractors, material, men, suppliers, or others having lien or claim rights, shall acknowledge receipt of all sums due pursuant to all prior Payment Requests and waive and relinquish any liens, lien rights, or other claims relating to the Project site. Furthermore, the CONTRACTOR warrants and represents that, upon payment of the Payment Request submitted, title to all work included in such payment shall be vested in the CITY, even though responsibility for the care and maintenance of said work rests with CONTRACTOR until Substantial Completion of contracted Project.

6(D) When payment is received from the CITY, the CONTRACTOR shall promptly pay all subcontractors, material men, laborers, and suppliers the amounts they are due for the work covered by such payment.

6(E) Neither payment to the CONTRACTOR, utilization of the Project for any purpose by the CITY, nor any other act or omission by the CITY shall be interpreted or construed as an acceptance of any Work of the CONTRACTOR not strictly in compliance with this Agreement.

After written notice to the CONTRACTOR and a reasonable opportunity to cure, the CITY shall have the right to refuse to make payment, in whole or in part, and, if necessary, may demand the return of a portion or the entire amount previously paid to the CONTRACTOR due to:

- (1) The quality of a portion, or all, of the CONTRACTOR's work not being in requirements of this Agreement; or
- (2) The quantity of the CONTRACTOR's work not being as represented in the CONTRACTOR's Payment Request, or otherwise; or
- (3) The CONTRACTOR's rate of progress being such that, in the opinion of the Project Manager, as designated by the City Manager, Substantial Completion may be inexcusably delayed; or
- (4) The CONTRACTOR's failure to use Contract funds, previously paid the CONTRACTOR by the CITY to pay CONTRACTOR's project-related obligations including, but not limited to, subcontractors, laborers, and material and equipment suppliers; or
- (5) Claims made, or likely to be made, against the CITY or its property for which the CONTRACTOR or its agents or subcontractors or others for whom it is responsible are, or reasonably appear to be at fault; or
- (6) Loss caused by the CONTRACTOR; or
- (7) The CONTRACTOR's failure or refusal to perform any of its obligations to the CITY after written notice and a reasonable opportunity to cure as set forth above.

In the event that the CITY makes written demand upon the CONTRACTOR for amounts previously paid by the CITY as contemplated in this Subarticle 6(E), the CONTRACTOR shall promptly comply with such demand. As applicable under Florida law, the CITY's rights hereunder survive the term of this Agreement, are not waived by final payment and/or acceptance, and are in addition to CONTRACTOR's obligations in Article 14 and elsewhere herein.

6(F) When the CONTRACTOR believes that Substantial Completion has been achieved, the CONTRACTOR shall notify the CITY in writing and shall furnish a listing of those matters yet to be finished. The Project Manager, as designated by the City Manager, will thereupon conduct a site review to confirm that the Work is in fact substantially complete. Upon confirmation that the CONTRACTOR's Work is substantially complete, the Project Manager, as designated by the City Manager, will therein set forth the date of Substantial Completion for approval. After approval, the CITY will so notify the CONTRACTOR. If the Project Manager, as designated by the City Manager, through his review, fails to find that the CONTRACTOR's work is substantially complete, and is required to repeat all, or any portion, of its Substantial Completion review, the CONTRACTOR shall bear the cost of such repeat site review(s), which cost may be deducted by the CITY from any payment then or thereafter due to the CONTRACTOR.

Guarantees and equipment warranties required by this Contract shall commence on the date of Substantial Completion.

Upon Substantial Completion, the CITY shall pay the CONTRACTOR an amount sufficient to increase total payments to the CONTRACTOR to one hundred percent (100%) of the Contract Amount less any amounts attributable to damages, and less one hundred fifty percent (150%) of the costs, as reasonably determined by the CITY for completing all incomplete work, correcting and bringing into conformance all defective and nonconforming work, and handling any outstanding or threatened claims. Such a calculation by the Project Manager, as designated by the City Manager, of costs for completing all incomplete work, correcting and bringing into conformance all defective and nonconforming work, and handling any outstanding or threatened claims shall not bar the CITY from exercise of its rights elsewhere herein, in Article 16 below, or otherwise as provided by law for any incomplete, defective or nonconforming work or claims which are discovered by the CITY after the date of making such calculation or after the date of any partial or final payment, whether or not such incomplete, defective, or nonconforming work or claims were obvious or should have been discovered earlier.

6(G) When the Project is complete and the CONTRACTOR is ready for a final review, they shall notify the CITY or the Project Manager, as designated by the City Manager, thereof in writing. Thereupon, the Project Manager, as designated by the City Manager, will perform a final inspection of the Project. If the Project Manager, as designated by the City Manager, concurs that the Project is complete and in full accordance with this Agreement and that the CONTRACTOR has performed all of their obligations to the CITY hereunder, the CONTRACTOR will furnish a final Request for Payment to the CITY certifying to the CITY that the Project is complete and the CONTRACTOR is entitled to the remainder of the unpaid Contract Amount, less any amount withheld pursuant to this Agreement. If the Project Manager, as designated by the City Manager, is unable to issue his final Approval for Payment and is required to repeat the final inspection of the Project, the CONTRACTOR shall bear the cost of such repeat inspection(s), which costs may be deducted by the CITY from the CONTRACTOR's final payment;

6(H) In addition to other remedies of the CITY, actual damages may be withheld or collected for failure to meet the date for Final Completion as set forth in Article 5(A) above.

6(I) The CITY shall, subject to its rights set forth in Subarticle 6 above, endeavor to make final payment of all sums due the CONTRACTOR within thirty (30) calendar days of the

final Request for Payment, with the exception of items in dispute or concerning which the Project Manager, as designated by the City Manager, has exercised any of his rights to investigate or remove.

6(J) Notwithstanding any terms in this Article or elsewhere in this Contract, all payments shall be made in compliance with the Local Government Prompt Payment Act.

ARTICLE 7 INFORMATION AND MATERIAL SUPPLIED BY THE CITY

7(A)(i) The CITY shall furnish to the CONTRACTOR, prior to the execution of this Agreement, any and all written and tangible material in its possession concerning existing site conditions within the limits of the Project. Such written and tangible material is furnished to the CONTRACTOR only in order to make complete disclosure of such material as being in the possession of the CITY and for no other purpose. By furnishing such material, the CITY does not represent, warrant, or guarantee its accuracy either in whole, in part, implicitly or explicitly, or at all.

7(A)(ii)(a) Differing Site Conditions: The CONTRACTOR shall promptly, and before such conditions are disturbed, notify the Project Manager, as designated by the City Manager, in writing of: (1) subsurface or latent physical conditions at the site differing materially from those indicated in the Agreement, or (2) unknown physical conditions at the site, of an unusual nature, differing materially from those ordinarily encountered and generally recognized as inhering in work of the character provided for in this Agreement. The Project Manager, as designated by the City Manager, shall investigate the conditions, and if it is discovered that such conditions do materially so differ and cause an increase or decrease in the CONTRACTOR's cost of, or the time required for, performance of any part of the Work under this Agreement, whether or not changed as a result of such conditions, an adjustment shall be made, through negotiation and mutual agreement, and the Agreement modified in writing accordingly.

7(A)(ii)(b) No claim of the CONTRACTOR under this clause shall be allowed unless the CONTRACTOR has given the notice required herein: provided, however, the time prescribed therefore may be extended by the CITY.

7(A)(ii)(c) No claim by the CONTRACTOR for an adjustment hereunder shall be allowed if asserted after final payment under this Agreement.

7(B) The CONTRACTOR is responsible for obtaining all permits required. The CITY is responsible for payment of all permit fees. The CONTRACTOR shall coordinate with the CITY and all other authorities having jurisdiction.

7(C) The City Manager and the Project Manager, as designated by the City Manager, shall be the sole authorized representatives of the CITY. Other than in matters of public safety or in time of natural disaster or crisis, the CONTRACTOR shall not take direction or act upon information from any CITY personnel other than the Project Manager, as designated by the City Manager. This provision shall in no way limit the authority of the Finance Director as described herein or of the CITY'S City Attorney's Office or Building Department.

ARTICLE 8
CEASE AND DESIST ORDER OWNER'S RIGHT TO PERFORM WORK

8(A) In the event the CONTRACTOR fails or refuses to perform the Work, or any separable part thereof, as required herein, or with the diligence that will ensure its proper, timely completion in accordance with the Contract Documents, the Project Manager, as designated by the City Manager, may instruct the CONTRACTOR, by written notice, to cease and desist further Work, in whole or in part, or to correct deficient Work. Upon receipt of such instruction, the CONTRACTOR shall immediately cease and desist, or proceed, as instructed by the CITY. In the event the Project Manager, as designated by the City Manager, issues such instructions to cease and desist, the CONTRACTOR must, within seven (7) calendar days of receipt of the Project Manager's, as designated by the City Manager, instructions, provide a written, verified plan to eliminate or correct the cause of the Project Manager's, as designated by the City Manager, order, which plan appears to the Project Manager, as designated by the City Manager, to be reasonable, actually attainable, and in good faith. In the event that the CONTRACTOR fails and/or refuses to provide such a plan or diligently execute an approved plan, then the CITY shall have the right, but not the obligation, to subcontract the Work, or any portion thereof, with its own forces, or with the forces of another contractor, and the CONTRACTOR shall be fully responsible and liable for the costs of the CITY performing such work, which costs may be withheld from amounts due to the CONTRACTOR from the CITY. The rights set forth herein are in addition to, and without prejudice to, any other rights or remedies the CITY may have against the CONTRACTOR.

If Work completed by the CITY or other contractors affects, relates to, is to be attached onto, or extended by later Work of the CONTRACTOR, the CONTRACTOR shall, prior to proceeding with the later Work, and to the extent visible, report any apparent defects or variance from the Agreement requirements which would render the CONTRACTOR's later Work not in compliance with the Agreement requirements or defective or not in compliance with warranties or other obligations of the CONTRACTOR hereunder.

8(B) The provisions of this article shall be in addition to the CITY's ability to remove portions of the Work from this Agreement and complete it separately.

ARTICLE 9
DUTIES, OBLIGATIONS AND RESPONSIBILITIES OF THE CONTRACTOR

In addition to any and all other duties, obligations and responsibilities of the CONTRACTOR set forth in the Contract Documents, the CONTRACTOR shall have and perform the following duties, obligations, and responsibilities to the CITY:

9(A) Reference is hereby made to the continuing duties set forth in Subarticle 3(H) which are by reference hereby incorporated in this Subarticle 9(A). The CONTRACTOR shall not perform Work without adequate plans and specifications, or without, as appropriate, approved shop drawings or other submittals. If the CONTRACTOR performs work knowing or believing, or if through exercise of reasonable diligence, they should have known that such work involves an error, inconsistency or omission in the Agreement without first providing written notice to the Project Manager, as designated by the City Manager, , the CONTRACTOR shall be responsible for such Work and shall correct same bearing the costs set forth in Article 3(H) above.

9(B) All Work shall strictly conform to the requirements of this Agreement. To that end, the CONTRACTOR shall be solely responsible for and have control over construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work, unless otherwise specified in the Contract Documents.

9(C) The Work shall be strictly supervised, the CONTRACTOR bearing full responsibility for any and all acts, errors, or omissions of those engaged in the Work on behalf of the CONTRACTOR, including, but not limited to, all subcontractors and their employees. The CONTRACTOR shall maintain an on-site superintendent while any portion of the Work is being performed.

9(D) The CONTRACTOR hereby warrants that all laborers furnished under this Agreement shall be qualified and competent to perform the tasks undertaken, that the product of such labor shall yield only first-class results, that all materials and equipment provided shall be new (unless otherwise specified) and of high quality, that the completed work will be complete, of high quality, without defects, and that all work strictly complies with the requirements of this Agreement. Any work not strictly complying with the requirements of this Subarticle shall constitute a breach of this CONTRACTOR'S warranty.

9(E) The CONTRACTOR will be responsible for acquiring the permit(s) and calling for routine inspections. The CONTRACTOR will cooperate with and abide by the decision of inspectors having jurisdiction. The CONTRACTOR shall comply with all legal requirements applicable to the Work.

9(F) The CONTRACTOR shall employ and maintain at the Project site only competent, qualified full time supervisory personnel, augmented with part time and offsite supervision, to be identified in the approved general conditions. Key supervisory personnel assigned by the CONTRACTOR to this Project are as follows:

NAME	FUNCTION
Chris Weeley	Project Manager
Richard Baucher	Superintendent

If at any time the Project Manager, as designated by the City Manager, reasonably determines that any employee of the CONTRACTOR is not properly performing the Work in the best interest of the project, or is hindering the progress of the Work, or is otherwise objectionable, the Project Manager, as designated by the City Manager, shall so notify the CONTRACTOR, whom shall replace the employee as soon as possible, at no increased cost to the CITY.

9(G) The CONTRACTOR must submit to the CITY and the Project Manager, as designated by the City Manager, the CONTRACTOR'S schedule for completing the Work prior to submittal of the first application for payment. The Project Manager, as designated by the City Manager, will not review any payment request until such schedule has been submitted and approved. Such schedule shall be in a form as specified in the plans which shall provide for expeditious and practicable construction of the Project. The CONTRACTOR'S schedule shall be updated no less frequently than monthly (unless the parties otherwise agree in writing) and shall be updated to reflect conditions encountered from time to time and shall apply to the total project. Each such revision shall be furnished to the CITY and the Project Manager, as designated by the City Manager . Strict compliance with the requirements of this Subarticle 9(G) shall be a

condition precedent to payment to the CONTRACTOR and failure by the CONTRACTOR to strictly comply with said requirements shall constitute a material breach of this Agreement.

9(H) The CONTRACTOR shall keep an updated copy of the Contract Documents at the site. Additionally, the CONTRACTOR shall keep a copy of approved shop drawings and other submittals. All of these items shall be available to the Project Manager, as designated by the City Manager, during all regular business hours.

9(I) Shop drawings and other such submittals from the CONTRACTOR do not constitute a part of the Agreement. The CONTRACTOR shall not do any work requiring shop drawings or other submittals unless such has been approved in writing by the Project Manager, as designated by the City Manager, or as required by the Contract Documents. All work requiring approved shop drawings or other submittals shall be done in strict compliance with such approved documents or Agreement requirements. However, approval by the Project Manager, as designated by the City Manager, shall not be evidence that work installed pursuant thereto conforms with the requirements of this Agreement, and shall not relieve the CONTRACTOR of responsibility for deviations from the Agreement unless the Project Manager, as designated by the City Manager, has been specifically informed of the deviation by a writing incorporated in the submittals and has approved the deviation in writing.

The delivery of submittals shall constitute a representation by the CONTRACTOR that it has verified that the submittals meet the requirements of the Agreement, or will do so, including field measurements, materials, and field construction criteria related thereto.

The Project Manager, as designated by the City Manager, shall have no duty to review partial submittals or incomplete submittals. The CONTRACTOR shall have the duty to carefully review, inspect, examine, and physically stamp and sign any and all submittals before submission of same to the Project Manager, as designated by the City Manager .

9(J) The CONTRACTOR shall maintain the Project site and adjacent areas affected by its Work and/or the acts of its employees, material, men, and subcontractors in a reasonably clean condition during performance of the Work. Upon Substantial Completion, the CONTRACTOR shall thoroughly clean the Project site of all debris, trash, and excess materials or equipment. If the CONTRACTOR fails to do so, the CITY may complete the cleanup, by its own forces or by separate contract, and shall be entitled to charge the CONTRACTOR for same through the collection or withholding of funds through the mechanisms provided elsewhere herein.

9(K) At all times relevant to this Agreement, the CONTRACTOR shall permit the CITY and its consultants to enter upon the Project site and any offsite lay down areas, and to review or inspect the Work and any materials on any such site, without formality or other procedure.

9(L) The CONTRACTOR recognizes that the CITY may enter into other contracts to perform work relating to the Project, or to complete portions of the Work itself, the CONTRACTOR shall ensure that its forces reasonably accommodate the forces of the CITY and other contractors hired by the CITY. The CONTRACTOR shall coordinate its schedule with the work of other contractors. If the CONTRACTOR claims that delay or damage results from these actions of the CITY, it shall promptly submit a claim as provided herein.

9(M) PROTECTION OF PERSONS AND PROPERTY. It shall be the responsibility of

the CONTRACTOR to initiate, continue, and supervise all safety programs and precautions in the performance of the terms of this Agreement. The CONTRACTOR shall take reasonable precautions for the safety of, and shall provide reasonable protection to prevent damage, injury, or loss to its employees, subcontractors' employees, employees of the CITY, members of the public, the Work itself and unassembled components thereof, and other property at the site or adjacent thereto. As part of the CONTRACTOR's obligations hereunder, the CONTRACTOR shall erect and maintain safeguards, barriers, signs, warnings, etc.

With notice to the Project Manager, as designated by the City Manager, the CONTRACTOR shall promptly remedy loss or damage to the Work or any person or property described herein caused in whole or in part by the acts of the CONTRACTOR or any subcontractor, sub-subcontractor, or material man. This obligation shall be in addition to the requirements of Article 10 herein. The Project Manager, as designated by the City Manager, may direct the CONTRACTOR to remedy violations of applicable laws, rules, regulations, and interpretations related to safety when and if observed on the site. However, through exercising this authority, the Project Manager, as designated by the City Manager, shall not incur any obligations to monitor, initiate, continue, or supervise safety programs and precautions such to diminish the CONTRACTOR's primary role in same. The Project Manager, as designated by the City Manager, shall have the right to report suspected safety violations to the Occupational Safety and Health Administration (OSHA).

The CONTRACTOR shall promptly notify the Project Manager, as designated by the City Manager, upon discovery of any unidentified material which CONTRACTOR reasonably believes to be asbestos, lead, PCB, or other hazardous material, and shall immediately stop work in the affected area of the Project. The CONTRACTOR shall not be responsible for removal or other work with regard to such hazardous material unless otherwise agreed between the Project Manager, as designated by the City Manager, and the CONTRACTOR. In the case of work stopped hereunder, Article 5 shall apply to claims for delay, hindrance, or interference. Work will resume in the affected area of the Project immediately after such time as the hazardous material has been removed or rendered harmless, as certified by an industrial hygienist to be engaged by the CITY.

ARTICLE 10 INDEMNITY

Except for expenses or liabilities arising from the negligence of the CITY, the CONTRACTOR hereby expressly agrees to indemnify and hold the CITY harmless against any and all expenses and liabilities arising out of the performance or default of this Agreement as follows:

10(A) CONTRACTOR shall indemnify and hold harmless, to the maximum extent permitted by law, CITY and its officers and employees, from and against any and all liability, damages, losses, (whether in contract or in tort, including personal injury, accidental death, or property damage, and regardless, of whether the allegations are false, fraudulent, or groundless), and costs (including reasonable attorney fees, litigation, arbitration, mediation, and appeal expenses) to the extent caused by the negligence, recklessness, or intentional wrongful misconduct of the CONTRACTOR and persons employed by or utilized by the CONTRACTOR in CONTRACTOR's performance of this Agreement.

10(B) CONTRACTOR's obligation to indemnify and hold harmless shall remain in effect

and shall be binding upon CONTRACTOR whether such injury or damage shall accrue, or may be discovered, before or after termination of this Agreement.

10(C) CONTRACTOR's failure to comply with this section's provisions shall constitute a material breach upon which CITY may immediately terminate or suspend this Agreement.

ARTICLE 11 CLAIMS BY THE CONTRACTOR

Claims by the CONTRACTOR against the CITY, other than for time extensions covered by Article 5 hereof, are subject to the following terms and conditions:

11(A) All CONTRACTOR claims against the CITY shall be initiated by a written claim submitted to the CITY. Notice of such claim shall be received by the CITY no later than either ten (10) calendar days after the event, or ten (10) calendar days after the first appearance of the circumstances causing the claim, whichever is sooner, and same shall set forth in detail all known facts and circumstances supporting the claim. Final costs associated with any claim upon which notice has been filed must be submitted in writing to the CITY within thirty (30) calendar days after notice has been received.

11(B) The CONTRACTOR and the CITY shall continue their performance hereunder regardless of the existence of any claims submitted by the CONTRACTOR including claims set forth in Article 5 hereof.

11(C) In the event the CONTRACTOR discovers previously concealed and unknown site conditions which are materially vary from those typically and ordinarily encountered in the general geographical location of the Project, the Contract Amount may, with the approval of the CITY, be modified, either upward or downward, upon the written notice of claim made by either party within ten (10) calendar days after the first appearance to such party of the circumstances. Final costs must be submitted within thirty (30) calendar days after such notice is received by the CITY, unless extended by written agreement of the parties. As a condition precedent to the CITY having any liability to the CONTRACTOR due to concealed and unknown conditions, the CONTRACTOR must give the Project Manager, as designated by the City Manager, written notice of, and an opportunity to observe, such condition prior to disturbing it. The failure by the CONTRACTOR to give the written notice and make the claim as provided by this Subarticle 11(C) and Subarticle 7(A)(ii) shall constitute a waiver by the CONTRACTOR of any rights arising out of or relating to such concealed and unknown condition.

11(D) In the event the CONTRACTOR seeks to make a claim for an increase in the Contract Amount, as a condition precedent to any liability of the CITY therefore, unless emergency conditions exist, the CONTRACTOR shall strictly comply with the requirements of Subarticle 11(A) above and such claim shall be made by the CONTRACTOR before proceeding to execute any work for which a claim is made. Failure to comply with this condition precedent shall constitute a waiver by the CONTRACTOR of any claim for additional compensation.

11(E) In connection with any claim by the CONTRACTOR against the CITY for compensation in excess of the Contract Amount, any liability of the CITY for the CONTRACTOR's cost shall be limited to those cost categories set forth in Article 13(E) below.

ARTICLE 12 SUBCONTRACTORS

12(A) Prior to execution of this Agreement, the CONTRACTOR shall have identified to the Project Manager, as designated by the City Manager, , in writing, those parties required to be listed on the proposal form as subcontractors on the Project. Any changes to this list at any time shall be subject to the prior approval of the Project Manager, as designated by the City Manager, . The Project Manager, as designated by the City Manager, shall, in writing, state any objections the CITY may have to one or more of such subcontractors. The CONTRACTOR shall not enter into a subcontract with an intended subcontractor to whom the CITY reasonably objects. If at any time the CITY objects to a subcontractor, the CONTRACTOR shall solicit proposals from potential replacements and shall submit the three lowest proposals to the Project Manager, as designated by the City Manager, , along with the CONTRACTOR's proposed choice as replacement without an increase in bid price.

All subcontracts shall afford the CONTRACTOR rights against the subcontractor which correspond to those rights afforded to the CITY against the CONTRACTOR herein, including those rights of Agreement termination as set forth herein.

12(B) Each and every subcontract related to the Project is hereby assigned by the CONTRACTOR to the CITY, contingent upon the termination of this Agreement for default or convenience as provided herein, and only as to those subcontracts which the Project Manager, as designated by the City Manager, accepts in writing directed to the CONTRACTOR. This contingent assignment is subject to the prior rights of any surety obligated under a bond related to this Agreement. This contingent assignment will operate prospectively from the effective date of assignment and will not obligate the CITY to any liabilities existing on the effective date of the assignment or arising from events, acts, failures to act, facts, or circumstances existing prior to the effective date of the assignment. The contracts subject to this contingent assignment shall also be further assignable by the CITY, at the CITY's sole option. The CONTRACTOR shall bear the responsibility of notifying subcontractors of this contingent assignment and including it in all subcontracts in connection with the Project.

ARTICLE 13 CHANGE ORDERS

One or more changes to the Work within the general scope of this Agreement may be ordered by Change Order. The CITY may also issue written directions for minor changes in the Work and may issue Construction Change Directives, as set forth below. The CONTRACTOR shall proceed with any such changes or Construction Change Directives without delay and in a diligent manner, and same shall be accomplished in strict accordance with the following terms and conditions:

13(A) Change Order shall mean a written order to the CONTRACTOR executed by the CITY after execution of this Contract, directing a change in the Work. A Change Order may include a change in the contract amount (other than a change attributable to damages to the CONTRACTOR for delay as provided in Article 5 hereof) or the time for the CONTRACTOR's performance, or any combination thereof. Where there is a lack of total agreement on the terms of a Change Order or insufficient time to execute a bilateral change, the CITY may also direct a change in the Work in the form of a Construction Change Directive, which will set forth the change in the Work and the change, if any, in the Contract Amount or time for performance, for

subsequent inclusion in a Change Order; Construction Change Directives shall include a not-to-exceed preliminary price, against which the CONTRACTOR may begin billing (subject to the requirements for pay applications elsewhere herein) as the work is performed.

- a. The CONTRACTOR shall furnish a price breakdown, itemized as required and within the time specified by the Project Manager, as designated by the City Manager, , with any proposal for a contract modification.
- b. The price breakdown:
 - (a) Must include sufficient detail to permit an analysis of all costs for material, labor, equipment, and subcontracts; and
 - (b) Must cover all work involved in the modification, whether the work was deleted, added, or changed.
- c. The CONTRACTOR shall provide similar price breakdowns to support any amounts claimed for subcontracts.
- d. The CONTRACTOR'S proposal shall include a complete justification for any time extension proposed.

13(B) Any change in the Contract Amount resulting from a Change Order shall be determined as follows:

- (1) By mutual agreement between the CITY and the CONTRACTOR as evidenced by: (a) the change in the Contract Amount being set forth in the Change Order, (b) such change in the Contract Amount, together with any conditions or requirements relating thereto, being initialed by both parties, and (c) the CONTRACTOR'S execution of the Change Order; or
- (2) If no mutual agreement occurs between the CITY and the CONTRACTOR, the change in the Contract Amount, if any, shall be derived by determining the reasonable actual costs incurred or savings achieved, resulting from revisions in the Work. Such reasonable actual costs or savings shall include a component for direct job site overhead and profit but shall not include home-office overhead or other indirect costs or components. The calculation of actual costs shall conform to the markup schedule in Article 13(E) below. Any such costs or savings shall be documented in the format and with such content and detail as the CITY requires.

The CONTRACTOR shall promptly submit such documentation and other backup as the CITY may require in evaluating the actual costs incurred.

13(C) The execution of a Change Order by the CONTRACTOR shall constitute conclusive evidence of the CONTRACTOR'S agreement to the ordered changes in the Work, this Agreement as thus amended, the Contract Amount, and the time for performance by the CONTRACTOR. The CONTRACTOR, by executing the Change Order, waives and forever releases any claim against the CITY for additional time or compensation for matters relating to, arising out of, or resulting from the work included within or affected by the executed Change

Order of which the CONTRACTOR knew or should have known.

13(D) The CONTRACTOR shall notify and obtain the consent and approval of the CONTRACTOR'S surety with reference to all Change Orders if such notice, consent, or approval are required by the CITY, the CONTRACTOR'S surety or by law. The CONTRACTOR'S execution of the Change Order shall constitute the CONTRACTOR'S warranty to the CITY that the surety has been notified of, and consents to, such Change Order and the surety shall be conclusively deemed to have been notified of such Change Order and to have expressly consented thereto.

13(E) For the purpose of Change Orders, the following definitions of terms apply:

CONTRACTOR'S or Subcontractor's Materials shall include the cost of materials, sales tax, and the cost of all transport. The cost of items listed shall be directly related to the Change Order. Indirect costs not specifically related to the Change Order shall not be considered.

CONTRACTOR's or Subcontractor's Direct Labor Cost shall be limited to the hourly rate of directly involved workmen, employer contributions towards company standard benefits, pensions, unemployment, or social security (if any), and employer costs for paid sick and annual leave.

CONTRACTOR's or Subcontractor's Overhead shall include license fees, bond premiums, supervision, wages of timekeepers and clerks, incidentals, home and field office expense, vehicle expense directly related to the Project, and all other direct Project expenses not included in the CONTRACTOR's materials, direct labor, and equipment costs.

The allowance for Overhead and Profit shall be limited to the following schedule:

1. For the CONTRACTOR, for any work performed by the CONTRACTOR'S own forces, 15% of the Subtotal of Costs to the CONTRACTOR.
2. For the CONTRACTOR, for any work performed by his Subcontractor, 6% of the amount due the Subcontractor.
3. For each Subcontractor or Sub-subcontractor involved, for any work performed by their own forces, 15% of their materials and direct labor costs.
4. For each Subcontractor, for work performed by his Sub-subcontractor(s), 6% of the amount due the Sub-subcontractor.

For Change Orders the total cost or credit to the Owner shall be based on the following schedule:

CONTRACTOR's Materials Cost
+ CONTRACTOR's Direct Labor Costs
+ CONTRACTOR's Equipment Costs (includes owned/rental equipment)

+ Applicable Subcontractor Costs
Subtotal of Costs to the CONTRACTOR
+ CONTRACTOR's Overhead and Profit
Total Cost or Credit to the Owner

13(F) Nothing contained in this Article shall be deemed to contradict or limit the terms of Article 6(E) herein.

ARTICLE 14
DISCOVERING AND CORRECTING DEFECTIVE OR INCOMPLETE WORK

14(A) In the event that the CONTRACTOR covers, conceals, or obscures its work in violation of this Agreement or in violation of an instruction from the Project Manager, as designated by the City Manager, , such work shall be uncovered and displayed for review by the Project Manager, as designated by the City Manager, and/or the CITY'S consultants upon request, and shall be reworked at no cost in time or money to the CITY.

14(B) If any of the work is covered, concealed, or obscured in a manner not covered by Subarticle 14(A) above, it shall, if directed by the Project Manager, as designated by the City Manager, , be uncovered and displayed for the Project Manager, as designated by the City Manager, and/or the CITY'S consultants. If the uncovered work conforms strictly to this Agreement, the costs incurred by the CONTRACTOR to uncover and subsequently replace such work shall be done by the CITY. Otherwise, such costs shall be borne by the CONTRACTOR.

14(C) The CONTRACTOR shall, at no cost in time or money to the CITY, correct work rejected by the Project Manager, as designated by the City Manager, as defective or failing to conform to this Agreement. Additionally, the CONTRACTOR shall reimburse the CITY for all testing, review, inspections, and other expenses incurred as a result thereof.

14(D) In addition to its warranty obligations set forth elsewhere herein and any manufacturers' warranties provided on the Project, and in addition to other remedies provided herein or by law to the CITY, the CONTRACTOR shall be specifically obligated to promptly correct any and all defective or nonconforming work, whether obvious or after-discovered, for a period of twelve (12) months following Substantial Completion upon written direction from the Project Manager, as designated by the City Manager;

14(E) Project Manager, as designated by the City Manager, may, but shall in no event be required to, choose to accept defective or nonconforming work. In such event, the Contract Amount shall be reduced by the greater of: (1) the reasonable costs of removing and correcting the defective or nonconforming work plus 150% of costs, or (2) the difference between the fair market value of the Project as constructed and the fair market value of the Project had it not been constructed in such a manner as to include defective or nonconforming work. If the remaining portion of the unpaid Contract Amount, if any, is sufficient to compensate the CITY for the acceptance of defective or nonconforming work, the CONTRACTOR shall, upon written demand from the CITY, pay the CITY such remaining compensation for accepting defective or nonconforming work. The CONTRACTOR shall have an opportunity to correct any defect or non-conformance prior to the CITY taking the above actions. The CONTRACTOR, upon written notice of any defect or non-conformance, shall have ten (10) calendar days to make corrections, unless the Project Manager, as designated by the City Manager, agrees that the correction will require more than ten (10) calendar days to correct and agrees, in writing, to the specified

additional time to correct the defect or non-conformance.

**ARTICLE 15
CITY'S RIGHT TO SUSPEND CONTRACTOR'S PERFORMANCE**

15(A) In addition to the CITY'S rights under Article 8 and elsewhere herein, the CITY shall have the right at any time to direct the CONTRACTOR to suspend its performance, or any designated part thereof, when in the interests of the CITY. If any such suspension is directed by the CITY, the CONTRACTOR shall immediately comply with same.

15(B) In the event the Project Manager, as designated by the City Manager, directs a suspension of performance under this Article, through no fault of the CONTRACTOR, if the suspension is lifted other than by termination, the CITY shall pay the CONTRACTOR as full compensation for such suspension the CONTRACTOR's ordinary and reasonable costs, actually incurred and paid of:

- (1) demobilization and remobilization, including such justifiable costs paid to subcontractors (cost categories and markups limited to those set forth in Article 13(E) above); and
- (2) preserving and protecting work in place; and
- (3) approved storage of materials or equipment purchased for the Project, including insurance thereon; and
- (4) substantiated extended field office overhead (no home office overhead).

15(C) The CITY may order suspension of the Work in whole or in part for such time as deemed necessary because of the failure of the CONTRACTOR to comply with any of the requirements of this Agreement, and the Agreement's completion date shall not be extended on account of any such suspension of Work.

When the Project Manager, as designated by the City Manager, orders any suspension of the Work under this Subarticle (C), the CONTRACTOR shall not be entitled to any payment for Work which the CONTRACTOR performs after notice of suspension and/or during the suspension period and shall not be entitled to any costs or damages resulting from such suspension.

15(D) The CITY's rights under this Article shall be in addition to those contained elsewhere herein or provided by law.

**ARTICLE 16
TERMINATION BY THE CITY**

The CITY may terminate this Agreement in accordance with the following terms and conditions:

16(A) Termination for Convenience. The CITY may, when in the interests of the CITY, terminate performance under this Agreement by the CONTRACTOR, in whole or in part, for the convenience of the CITY. The CITY shall give written notice of such termination to the

CONTRACTOR specifying when termination becomes effective. The CONTRACTOR shall incur no further obligations in connection with the work so terminated, other than warranties and guarantees for completed work and installed equipment, and the CONTRACTOR shall stop work when such termination becomes effective. The CONTRACTOR shall also terminate outstanding orders and subcontracts for the affected work. The CONTRACTOR shall settle the liabilities and claims arising out of the termination of subcontracts and orders. The CITY may direct the CONTRACTOR to assign the CONTRACTOR's right, title, and interest under termination orders or subcontracts to the CITY or its designee. The CONTRACTOR shall transfer title and deliver to the CITY such completed or partially completed work and materials, equipment, parts, fixtures, information, and contract rights as the CONTRACTOR has in their possession or control. When terminated for convenience, the CONTRACTOR shall be compensated as follows:

16(A)(1) The CONTRACTOR shall submit a termination claim to the CITY specifying the amounts due because of the termination for convenience together with costs, pricing, or other data required by the CITY. If the CONTRACTOR fails to file a termination claim within one (1) year from the effective date of termination, the CITY shall pay the CONTRACTOR, an amount derived in accordance with Subarticle 16 (A)(3) below.

16(A)(2) The CITY and the CONTRACTOR may agree to the compensation, if any, due to the CONTRACTOR hereunder.

16(A)(3) Absent agreement to the amount due to the CONTRACTOR, the CITY shall pay the CONTRACTOR the following amounts:

- (a) Contract costs for labor, materials, equipment, and other services accepted under this Agreement.
- (b) Reasonable costs incurred in preparing to perform and in performing the terminated portion of the work, and in terminating the CONTRACTOR'S performance, plus a fair and reasonable allowance for direct job site overhead and earned profit thereon (such profit shall not include anticipated profit or consequential damages); provided however, that if it reasonably appears that the CONTRACTOR would have not profited or would have sustained a loss if the entire Agreement would have been completed, no profit shall be allowed or included and the amount of compensation shall be reduced to reflect the anticipated rate of loss, if any.
- (c) Reasonable costs of settling and paying claims arising out of the termination of subcontracts or orders pursuant to Subarticle 16(A) of this Article (if contingent assignment of such contracts has not been elected as provided herein). These costs shall not include amounts paid in accordance with other provisions hereof. This clause is subject to, and the CONTRACTOR shall be limited by, the CITY's right to direct the replacement of subcontractors under Article 12 (A).

The total sum to be paid the CONTRACTOR under this Subarticle 16(A) shall not exceed the total contract amount, as properly adjusted, reduced by the amount of payments otherwise made, and shall, in no event, include duplication of payment.

16(B) Termination for Cause. If the CONTRACTOR does not perform the Work, or any part thereof, in a timely manner, supply adequate labor, supervisory personnel, or proper equipment or materials, or if it fails to timely discharge its obligations for labor, equipment, and materials, or proceeds to disobey applicable law, or otherwise commits a violation of a material provision of this Agreement, then the CITY, in addition to any other rights it may have against the CONTRACTOR or others, may terminate the performance of the CONTRACTOR, in whole or in part at the CITY's sole option, and assume possession of the Project site and of all materials and equipment at the site and may complete the work.

In such case, the CONTRACTOR shall not be paid further until the Work is complete. After Final Completion has been achieved, if any portion of the Contract Amount, as it may be modified hereunder, remains after the cost to the CITY of completing the Work, including all costs and expenses of every nature incurred, has been deducted by the CITY, such remainder shall belong to the CONTRACTOR. Otherwise, the CONTRACTOR shall pay and make whole the CITY for such cost. This obligation for payment shall survive the termination of the Agreement.

In the event the employment of the CONTRACTOR is terminated by the CITY for cause pursuant to this Subarticle 16(B) and it is subsequently determined by a Court of competent jurisdiction that such termination was without cause, such termination shall thereupon be deemed a Termination for Convenience under Subarticle 16(A) and the provisions of Subarticle 16(A) shall apply.

16(C) Termination for Non-Appropriation. The CITY may also terminate this Agreement, in whole or in part, for non-appropriation of sufficient funds to complete or partially complete the Project, regardless of the source of such funds, and such termination shall be on the terms of Subarticle 16(A).

16(D) The CITY's rights under this Article shall be in addition to those contained elsewhere herein or provided by law.

ARTICLE 17 INSURANCE

17(A) CONTRACTOR shall be responsible for all damage to person and/or property resulting from its negligent acts, reckless or intentional misconduct, errors, or omissions or those of their subcontractors, agents, or employees in connection with such services and shall be responsible for all parts of its work, both temporary and permanent.

17(A)(1) Evidence of Insurance

CONTRACTOR shall, at its own expense, procure and maintain throughout the term of this Agreement, with insurers acceptable to the CITY, the types and amounts of insurance conforming to the minimum requirements set forth herein. CONTRACTOR shall not commence Work until the required insurance is in force and evidence of insurance acceptable to the CITY has been provided to, and approved by, the CITY. The CITY, at all times, reserves the right to request such additional documentation and evidence of insurance as in its sole discretion it may require, and the CONTRACTOR hereby agrees to provide same.

With respect to the Workers' Compensation/Employer's Liability Insurance and Business Auto Liability Insurance, an appropriate Certificate of Insurance (which identifies the Project), and a copy of the actual notice of cancellation endorsement(s) as issued on the policy(ies), signed by an authorized representative of the insurer(s) shall be satisfactory evidence of insurance. With respect to the Commercial General Liability, Watercraft Liability, and Pollution Liability Insurance, an appropriate Certificate of Insurance (which identifies the Project) signed by an authorized representative of the insurer, and copies of the actual additional insured and notice of cancellation endorsements as issued on the policy(ies), shall be satisfactory evidence of such insurance. With respect to Property Insurance, a fully completed Evidence of Commercial Property Insurance (ACORD Form 28) signed by an authorized representative of the insurance, a copy of the notice of cancellation endorsement and a copy of the waiver of subrogation endorsement shall be satisfactory evidence of such insurance. All endorsements shall be properly completed and signed by an authorized representative of the insurer providing the coverage and shall indicate the policy number.

To the extent CONTRACTOR is permitted to and elects to sub-contract any of the Work performed under this Agreement, CONTRACTOR shall require Subcontractors to maintain any and all insurance required by law. Except to the extent required by law, or as otherwise specifically provided by this Agreement, this Agreement does not establish minimum insurance requirements for Subcontractors.

If the insurance policies expire or terminate during the term of this Agreement, CONTRACTOR shall provide CITY with renewal or replacement evidence of the insurance, including endorsements, no less than fifteen (15) days before the expiration or termination of the insurance for which previous evidence of insurance has been provided.

Notwithstanding the prior submission of a Certificate of Insurance, copies of endorsements, or other evidence initially acceptable to CITY, if requested by CITY, CONTRACTOR shall, within thirty (30) days after receipt of a written request from CITY, provide CITY with a certified copy or certified copies of the policy or policies providing the coverage required by this Article 17. CONTRACTOR may redact or omit, or cause to be redacted or omitted, those provisions of the policy or policies which are not relevant to the insurance required by Article 17.

17(A)(2) Workers' Compensation/Employer's Liability Insurance.

Workers' Compensation/Employer's Liability Insurance shall be no more restrictive than that provided by the latest edition of the standard Workers' Compensation Policy, as filed for use in Florida by the National Council on Compensation Insurance (NCCI), without any restrictive endorsements other than any endorsements required by NCCI or the State of Florida. In addition to coverage for the Florida Workers' Compensation Act, where appropriate, coverage is to be included for the Federal Employer's Liability Act and any other applicable Federal or State law.]

The policy must be endorsed to waive the insurer's right to subrogate against CITY, and its members, officials, officers, and employees in the manner which would result from the attachment of the NCCI Waiver of Our Right to Recover from Others Endorsement (Advisory Form WC 00 03 13) with CITY, and its officials, officers, and employees scheduled thereon.

The policy must be endorsed to provide CITY with thirty (30) days prior written notice of cancellation.

The minimum amount of coverage (inclusive of any amount provided by an umbrella or excess policy) shall be:

Part One:	"Statutory"	
Part Two:	\$2,000,000	Each Accident
	\$2,000,000	Disease - Policy Limit
	\$2,000,000	Disease - Each Employee

17(A)(3) Commercial General Liability Insurance.

Commercial General Liability Insurance shall be no more restrictive than that provided by the latest edition of the standard Commercial General Liability Form (Form CG 00 01) as filed for use in the State of Florida by the Insurance Services Office (ISO), without any restrictive endorsements other than any endorsements specifically required by ISO or the State of Florida.

The coverage may include restrictive endorsements which exclude coverage for liability arising out of:

- Mold, fungus, or bacteria
- Terrorism
- Silica, asbestos, or lead
- Sexual molestation

CITY and its members, officials, officers, and employees shall be included as an "Additional Insured" on a form no more restrictive than ISO form CG 20 10 (Additional Insured – Owners, Lessees, or Contractor) and ISO form CG 20 37 (Additional Insured – Owners, Lessees, or Contractors-Completed Operations).

The policy must be endorsed to provide CITY with thirty (30) days prior written notice of cancellation.

The minimum limits (inclusive of amounts provided by an umbrella or excess policy) shall be:

General Aggregate	\$2,000,000
Products/Completed Operations Aggregate	\$2,000,000
Personal and Advertising Injury	\$2,000,000
Each Occurrence	\$2,000,000

CONTRACTOR shall continue to maintain products/completed operations coverage in the amounts stated above for a period of three (3) years after the Final Completion of the Work. The insurance shall be on a form no more restrictive than, and shall cover those sources of liability which would be covered by Coverage A of, the latest occurrence form edition of the Commercial General Liability Coverage Form (ISO Form CG 00 01), or of the occurrence Products/Completed Operations Liability Coverage Form (ISO Form CG 00 37), as filed for use in the State of Florida by ISO, without any restrictive endorsements other than those which, under an ISO filing, must be attached to the policy (i.e., mandatory endorsements).

17(A)(4) Automobile Liability Insurance.

Automobile Liability Insurance shall be no more restrictive than that provided by Section

II (Liability Coverage) of the most recent version of the standard Business Auto Policy (ISO Form CA 00 01) without any restrictive endorsements, including coverage for liability contractually assumed, and shall cover all owned, non-owned, and hired autos used in connection with the performance of the Work.

The policy must be endorsed to provide CITY with 30 days prior written notice of cancellation.

Such insurance shall not be subject to any aggregate limit and the minimum limits (inclusive of any amounts provided by an umbrella or excess policy) shall be:

Each Occurrence Bodily Injury and
Property Damage Liability Combined \$2,000,000]

17(A)(5) Watercraft Liability

To the extent watercraft are utilized, the CONTRACTOR shall purchase and maintain, or cause its subcontractors to purchase and maintain, insurance which shall, at a minimum, cover the CONTRACTOR and subcontractor for injuries or damage arising out of the use of all owned, non-owned and hired watercraft.

The insurance shall include the CITY and its members, officials, officers, and employees as additional insureds.

The policy must be endorsed to provide CITY with thirty (30) days prior written notice of cancellation.

The limits applicable to watercraft liability (inclusive of any amounts provided by an umbrella or excess policy) shall be:

Each Occurrence/Annual Aggregate \$2,000,000]

17(A)(6) Pollution Legal Liability

Pollution Legal Liability shall cover CONTRACTOR for liability resulting from pollution or other environmental impairment arising out of, or in connection with, Work performed under this Agreement, or which arises out of, or in connection with this Agreement, including coverage for clean-up of pollution conditions and third-party bodily injury and property damage claims arising from pollution conditions. Such insurance shall also include transportation coverage and non-owned disposal site coverage.

The policy must be endorsed to provide CITY with thirty (30) days prior written notice of cancellation.

Coverage must either be on an occurrence basis; or, if on a claims-made basis, the coverage must respond to all claims reported within three (3) years following the period for which coverage is required and which would have been covered had the coverage been on an occurrence basis.

The minimum limits (inclusive of any amounts provided by an umbrella or excess policy) shall be:

Each Claim	\$2,000,000
Annual Aggregate	\$2,000,000

The CITY and the CITY's members, officials, officers, and employees shall be included as an "Additional Insureds" on the policy.

The Maximum permissible deductible or self-insured retention on the policy shall be \$50,000 per claim. The payment of any amount owed under any deductible or self-insured shall be the sole responsibility of CONTRACTOR and CONTRACTOR shall pay on behalf of the CITY or CITY's members, officials, officers, agents, and employees any deductible or self-insured retention applicable to a claim against the CITY or the CITY's officials, officers, agents, and employees.

17(A)(7) Property/Builder's Risk Insurance

CONTRACTOR shall provide, in a policy acceptable to the CITY, "all risk" (i.e., Special Form) property or builder's risk insurance on all such construction, additions, modifications, machinery, and equipment. The policy shall be issued on a non-reporting form of policy. The amount of the insurance shall be no less than the Contract Amount.

The maximum deductible for other than windstorm or hail shall be \$10,000 per occurrence. The maximum deductible per occurrence for windstorm and hail shall be the greater of \$20,000 or 5% of the Contract Amount. CONTRACTOR shall be responsible for the payment of such deductible.

The policy must be endorsed to provide the CITY with thirty (30) days prior written notice of cancellation. The policy must be endorsed to waive the insurer's right to subrogate against CITY, and its members, officials, officers, and employees.

17(A)(8) General Conditions

The insurance provided by the CONTRACTOR shall apply on a primary basis to and shall not require contribution from, any other insurance or self-insurance maintained by CITY or CITY's members, officials, officers, or employees. Any insurance, or self-insurance, maintained by the CITY shall be in excess of, and shall not contribute with, the insurance provided by CONTRACTOR.

Except as otherwise specifically authorized in this Agreement, no deductible or self-insured retention for any required insurance provided by CONTRACTOR pursuant to this Agreement will be allowed. To the extent any required insurance is subject to any deductible or self-insured retention (whether with or without approval of CITY), CONTRACTOR shall be responsible for paying on behalf of CITY (and any other person or organization CONTRACTOR has, in this Agreement, agreed to include as an insured for the required insurance) any such deductible or self-insured retention.

Compliance with these insurance requirements shall not limit the liability of CONTRACTOR, its subcontractors, sub-subcontractors, employees, or agents. Any remedy provided to the CITY or CITY's members, officials, officers, or employees by the insurance provided by CONTRACTOR or the CITY shall be in addition to and not in lieu of any other remedy (including, but not limited to, as an indemnitee of CONTRACTOR) available to the CITY under this Agreement or otherwise.

Neither approval nor failure to disapprove insurance furnished by CONTRACTOR shall relieve CONTRACTOR from the responsibility to provide insurance as required by this Agreement.

17(A)(9) CONTRACTOR shall deliver to CITY the required certificate(s) of insurance and endorsement(s) before beginning any WORK under this Agreement. Failure to do so shall constitute a material breach upon which the CITY may immediately terminate or suspend this Agreement.

17(A)(10) At its sole discretion, CITY may obtain or renew CONTRACTOR insurance, and CITY may pay all or part of the premiums. Upon demand, CONTRACTOR shall repay CITY all monies paid to obtain or renew the insurance. CITY may offset the cost of the premium against any monies due CONTRACTOR from CITY. CONTRACTOR's failure to obtain, pay for, maintain any required insurance shall constitute a material breach upon which the CITY may immediately terminate or suspend this Agreement.

ARTICLE 18 PERFORMANCE AND PAYMENT BONDS

(a) **BONDS REQUIRED:** Prior to issuance of the Notice of Commencement, CONTRACTOR shall provide CITY with a Common Law Performance Bond and a Statutory Payment Bond meeting the standards specified herein, on the forms provided by the CITY, and attached hereto, with a Power of Attorney Affidavit, each in an amount not less than the Contract Amount. Within fifteen (15) days after issuance of the Notice of Commencement, CONTRACTOR shall record in the public records of the county where the improvement is located, the statutory payment bond and common law performance bond as required in Section 255.05, Florida Statutes. CONTRACTOR shall provide the CITY with a true copy of the recorded bond(s) as evidence of such recording.

(b) **SURETY'S QUALIFICATIONS:** All bonds required under this Agreement, including, but not by way of limitation, any Bid Bond, Common Law Performance Bond or Statutory Payment Bond, shall be written through a reputable and responsible surety bond agency licensed to do business in the State of Florida and with a surety which holds a certificate of authority authorizing it to write surety bonds in Florida meeting the following requirements:

- (1) Ratings by A.M. Best

The surety company or corporation shall have minimum ratings by the A.M. Best Company of A- or better with a Financial Size Category of "V" or larger.

- (2) Circular 570

In addition to meeting the requirements of paragraph (1) above, the surety shall also comply with the U.S. Department of the Treasury Circular 570, Revised 2024, requirements as set forth in this paragraph (2). The surety shall maintain a current certificate of authority as an acceptable surety on Federal Bonds in accordance with U.S. Department of the Treasury Circular 570, Revised 2024. If the amount of the bond exceeds the underwriting limitations set forth in the U.S. Department of the Treasury Circular 570, Revised 2024, in order to qualify, the net retention of the surety company shall not exceed the underwriting limitation in the U.S. Department of the

Treasury Circular 570, Revised 2024, and the excess risk must be protected by co-insurance, reinsurance, or other methods in accordance with U.S. Department of the U.S. Department of the Treasury Circular 297, Revised September 1, 1978 (implemented at 31 CFR Part 223). Further, the surety company shall provide the CITY with evidence satisfactory to the CITY, that such excess risk has been protected in an acceptable manner.

(c) **ADDITIONAL OR REPLACEMENT BOND:** It is further mutually agreed between the parties hereto that if, at any time, the CITY shall deem the surety or sureties upon any bond to be unsatisfactory, or if for any reason, such bond (because of increases in the work or otherwise) ceases to be adequate, the CONTRACTOR shall, at their expense within five (5) days after the receipt of notice from the CITY to do so, furnish an additional or replacement bond or bonds in such form, amount, and with such surety or sureties as shall be satisfactory to the CITY. In such event, no further payments to the CONTRACTOR shall be deemed to be due under this Agreement until such new or additional security for the faithful performance of the work shall be furnished in manner and form satisfactory to the CITY.

(d) **CO-SURETIES:** Subject to the following requirements, the bonds required by this Agreement may be provided by more than one surety:

- (1) At least one of the co-sureties shall meet the requirements of Paragraph (b) for the full amount of the bond; and
- (2) Each surety shall be jointly and several liable for the full amount of the bond required.

(e) **FLORIDA AGENT:** The surety company shall have a Florida agent whose name shall be listed in the prescribed space on the forms provided by the CITY for all bonds required by the CITY.

ARTICLE 19 PROJECT RECORDS

All documents relating in any manner whatsoever to the Project, or any designated portion thereof, which are in the possession of the CONTRACTOR, or any subcontractor of the CONTRACTOR, shall be made available to the CITY and/or their consultants for inspection and copying upon written request by the CITY. Furthermore, said documents shall be made available, upon request by the CITY, to any state, federal, or other regulatory authority and any such authority may review, inspect, and copy such records. Said records include, but are not limited to, all drawings, plans, specifications, submittals, correspondence, minutes, memoranda, tape recordings, videos, or other writings or things which document the Project, its design, and its construction. Said records expressly include those documents reflecting the cost of construction to the CONTRACTOR. The CONTRACTOR shall maintain and protect these documents for no less than three (3) years after Completion of the Project, or for any longer period of time as may be required by law or good construction practice. The CONTRACTOR further agrees to include these provisions in any subcontracts issued by the CONTRACTOR in connection with this Agreement.

CONTRACTOR shall abide by all public records laws, and specifically:

(a) Keep and maintain public records required by the public agency to perform the service.

(b) Upon request from the public agency's custodian of public records, provide the public agency with a copy of the requested records or allow the records to be inspected or copied within a reasonable time at a cost that does not exceed the cost provided in this chapter or as otherwise provided by law.

(c) Ensure that public records that are exempt or confidential and exempt from public records disclosure requirements are not disclosed except as authorized by law for the duration of the contract term and following completion of the contract if the contractor does not transfer the records to the public agency.

(d) Upon completion of the contract, transfer, at no cost, to the public agency all public records in possession of the contractor or keep and maintain public records required by the public agency to perform the service. If the contractor transfers all public records to the public agency upon completion of the contract, the contractor shall destroy any duplicate public records that are exempt or confidential and exempt from public records disclosure requirements. If the contractor keeps and maintains public records upon completion of the contract, the contractor shall meet all applicable requirements for retaining public records. All records stored electronically must be provided to the public agency, upon request from the public agency's custodian of public records, in a format that is compatible with the information technology systems of the public agency.

IF THE CONTRACTOR HAS QUESTIONS REGARDING THE APPLICATION OF CHAPTER 119, FLORIDA STATUTES, TO THE CONTRACTOR'S DUTY TO PROVIDE PUBLIC RECORDS RELATING TO THIS CONTRACT, CONTACT THE CUSTODIAN OF PUBLIC RECORDS AT 772-467-3065, LCOX@CITYOFFORTPIERCE.COM, 100 N. US HIGHWAY 1, FORT PIERCE, FL 34950.

ARTICLE 20 APPLICABLE LAW

The laws of the State of Florida shall govern this Agreement. In any litigation arising under this Agreement, the parties agree to a waiver of the right to a trial before a jury, and all such litigation shall be litigated only in a non-jury hearing in St. Lucie County, Florida.

ARTICLE 21 SUCCESSORS AND ASSIGNS

Each party binds itself, its successors, assigns, executors, administrators, or other representatives to the other party hereto and to successors, assigns, executors, administrators, or other representatives of such other party in connection with all terms and conditions of this Agreement. The CONTRACTOR shall not assign this Agreement without prior written consent of the CITY.

ARTICLE 22 MISCELLANEOUS PROVISIONS

22(A) Compliance By CONTRACTOR: Nondiscrimination

CONTRACTOR shall comply with all Federal, State, and local laws, ordinances, rules, and regulations of any authorities throughout the duration of this Agreement. The CONTRACTOR shall be responsible for compliance with any such law, ordinance, rule, or regulation, and shall hold CITY harmless and indemnify same in the event of non-compliance. CONTRACTOR agrees to abide by the requirements under Federal Executive Order Number 11246, "Equal Employment Opportunity," as amended, including specifically the provisions of the equal opportunity clause.

22(B) Drug-Free Workplace

CONTRACTOR shall comply with Section 287.087, Florida Statutes, regarding Drug-Free Workplaces.

22(C) State and Local Taxes

Except as otherwise provided, contract prices shall include all applicable state and local taxes.

CONTRACTOR shall indemnify and hold harmless the CITY for any loss, cost, or expense incurred by, levied upon, or billed to the CITY as a result of CONTRACTOR's failure to pay any tax of any type due in connection with this Agreement. CONTRACTOR shall ensure that the above sections are included in all subcontracts and sub-subcontracts, and shall ensure withholding on out of state subcontractors and sub-subcontractors to which withholding is applicable. |

22(D) Gratuities and Kickbacks

Gratuities. It shall be unethical for any person to offer, give or agree to give any employee or former employee, or for any employee or former employee to solicit, demand, accept, or agree to accept from another person a gratuity or an offer of employment in connection with any decision, approval, disapproval, recommendation, preparation or any part of a program requirement or a purchase request, influencing the content of any specification or procurement standard, rendering of advice, investigation, auditing, or in any other advisory capacity in any proceeding or application, request for ruling, determination, claim or controversy, or other particular matter pertaining to any program requirement of a contract or subcontract, or to any solicitation or proposal therefore.

Kickbacks. It shall be unethical for any payment, gratuity, or offer of employment to be made by or on behalf of a subcontractor under a contract to the prime contractor, or to hire any subcontractor or any person associated therewith, as an inducement for the award of a subcontract or order.

22(E) Any and all notices required to be sent under this Agreement or otherwise shall be sent to the following:]

CITY:

Paul Thomas, CBO,CFM
Director of Building
City of Fort Pierce
100 North US Highway 1
Fort Pierce, FL 34954 -1480

Attention: **City Manager**
City Attorney

CONTRACTOR

Eric O'Brien
Director of Operations
REMNANT CONSTRUCTION, LLC
201 S 2nd Street, Ste 100
Fort Pierce, FL 34954-1480
772-577-5850

ARTICLE 23
ENTIRE AGREEMENT

Any modification to this Agreement must be supported by an additional, articulated consideration, and must either be in writing, executed by the parties hereto, or, if made orally, should be confirmed in writing, which writing should state the consideration which supports the modification. Failure to confirm an oral modification in writing shall constitute a waiver of any claim for additional compensation with regard to the oral modification. Nothing in this Article shall be construed to limit the CITY's authority to issue changes set forth in Article 13 herein.

ARTICLE 24
SEVERABILITY

If any term or condition of this Agreement or the application thereof to any person(s) or circumstances is held invalid, this invalidity shall not affect other terms, conditions, or applications which can be given effect without the invalid term, condition, or application. To this end, the terms and conditions of this Agreement are agreed to be severable.

ARTICLE 25
WAIVER

Waiver of any breach of any term or condition of this Agreement shall not be deemed a waiver of any prior or subsequent breach and shall not entitle any party hereto to any subsequent waiver of any terms hereunder. No term or condition of this Agreement shall be held to be waived, modified, or deleted except by an instrument, in writing, signed by the parties hereto.

ARTICLE 26
E-VERIFY

All requirements of Section 448.095, Florida Statutes, shall be complied with by CONTRACTOR. In accordance with, Section 448.095, Florida Statutes, CONTRACTOR shall register with and utilize the E-Verify System operated by the United States Department of Homeland Security to verify the employment eligibility of all new employees hired during the term of the Agreement and shall expressly require any subcontractors performing work or providing services pursuant to this Agreement to likewise utilize the E-Verify System to verify the employment eligibility of all new employees hired by the subcontractor during the term of this Contract. If CONTRACTOR enters into a contract with a subcontractor performing work or providing services on its behalf, CONTRACTOR shall also require the subcontractor to provide an affidavit stating that the

subcontractor does not employ, contract with, or subcontract with an unauthorized alien.

Information on registration for and use of the E-Verify System can be obtained via the internet at the Department of Homeland Security Web site: <http://www.dhs.gov/E-Verify>.

CONTRACTOR shall, upon request, provide evidence of compliance with this provision to the CITY. An agreement terminated pursuant to Section 448.095 is not a breach of contract and may not be considered as such. If the CITY terminates this Agreement with a CONTRACTOR, the CONTRACTOR may not be awarded a public contract for at least one (1) year after the date on which the contract was terminated. CONTRACTOR is liable for any additional costs incurred by the CITY as a result of the termination of this Agreement under Section 448.095, Florida Statutes.

ARTICLE 27 SOVEREIGN IMMUNITY

Nothing contained in this Agreement shall be deemed or otherwise interpreted as waiving the CITY'S sovereign immunity protections existing under the laws of the State of Florida, or as increasing the limits of liability as set forth in Section 768.28, Florida Statutes.


[REMAINDER OF PAGE INTENTIONALLY LEFT BLANK]

IN WITNESS WHEREOF, the Parties have executed this Agreement under their several seals the day and year first written above.

WITNESSETH:

CONTRACTOR:
REMNANT CONSTRUCTION, LLC |

MARK BOCK
Print Name


By: Brandon Noble


Signature

Title: CEO

Jennifer Knowles
Print Name


Signature

ATTEST:

CITY OF FORT PIERCE:

Linda Cox, City Clerk

Linda Hudson, Mayor

APPROVED AS TO FORM AND CORRECTNESS:

Sara Hedges, City Attorney



REVISED
BID RESPONSE FORM

Bid Item	GENERAL CONTACTOR SERVICES – FLOODPROOFING A NON-RESIDENTIAL STRUCTURE		
Bid Number	2024-004	Due Date & Time	3:00PM, THURSDAY, FEBRUARY 29, 2024

The offeror agrees to furnish the following items or services to the City of Fort Pierce at the place specified, in accordance with specifications herein at the prices quoted below.

DESCRIPTION	LUMP SUM TOTAL
General Contractor Services to Floodproof the Little Jim Bait & Tackle, Non-Residential Structure	\$ <u>266,048.00</u>

Please respond to the following questions:

This project will be completed within how many calendar days after the notice to proceed is issued?	100
Work is guaranteed for how many years?	1
Material are guaranteed for how many years?	Varies on Material

Vendor: Remnant Construction, LLC

Address: 201 S 2nd St., Ste 100

City, State, Zip Code: Fort Pierce, FL 34950

Email Address: eobrien@remnant-group.com

Typed Name & Title: Erin O'Brien - Director of Operations

Signature:  Date: 2/29/2024

Telephone No.: 954-667-4976 Fax No.: _____

(*Please include Remit to address if different than address stated above)

Remit To: _____

Check below for applicable minority indicator:

- | | | | |
|--------------------------|-----------------|--------------------------|--------------------------------|
| <input type="checkbox"/> | Asian Indian | <input type="checkbox"/> | Small Business |
| <input type="checkbox"/> | Asian Pacific | <input type="checkbox"/> | Women Owned |
| <input type="checkbox"/> | Black | <input type="checkbox"/> | Small Disadvantage
Business |
| <input type="checkbox"/> | Hispanic | | |
| <input type="checkbox"/> | Native American | | |

DELIVER TO:

City of Fort Pierce, Purchasing Division
Room 101
100 North U.S. #1
Fort Pierce, FL 34950

COPY

MAIL TO:

City of Fort Pierce Purchasing Division,
Room 101
P.O. Box 1480
Fort Pierce, FL 34954-1480

CITY OF FORT PIERCE



**INVITATION TO BID
and
BIDDER ACKNOWLEDGMENT**

Bid Writer: Gelencia Carter, 772-467-3102

Bid No: 2024-004

Mandatory Pre- Bid Conference Date:
10:00 A.M., THURSDAY, FEBRUARY 15, 2024

Bid Title: GENERAL CONTRACTOR SERVICES – FLOODPROOFING A NON-RESIDENTIAL STRUCTURE

Mandatory Pre-Bid Location:
Little Jim Bait & Tackle
601 North Causeway
Fort Pierce, FL 34949

Bid Opening Location:
Purchasing Division Conference Room, Room 101
100 North U.S. #1, 1st Floor
Ft. Pierce, Florida 34950

Bid Due Date & Time:
3:00PM, THURSDAY, FEBRUARY 29, 2024

If you need any reasonable accommodation for any type of disability in order to participate in this procurement, please contact this department as soon as possible.

Bidder Name:
Remnant Construction, LLC

I hereby certify that this bid is made without prior understanding, agreement, or connection with any corporation, firm, or person submitting a bid for the same materials, supplies or equipment, and is in all respects fair and without collusion or fraud. I agree to abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.

Mailing Address:
201 S 2nd St., Ste 100

X
Authorized Signature (Manual)

City, State, Zip Code:
Fort Pierce, FL 34950

Typed or Printed Name:
Erin O'Brien

Type of Entity (Select one):
Corporation
Partnership
Proprietorship

Title:
Director of Operations

Incorporated in the State of: FL **Year:** _____

Delivery in 100 **days, After Receipt Order**

Phone Number: 772-577-5850

Payment Terms: Net 30 Days

Fax Number: _____

FEIN or SS Number: 82-3438825

E-Mail Address: eobrien@remnant-group.com

Local Business: Y N **MWBE:** Y N

Bid Security is attached, when required, in the amount of \$ 10% of bid amount
F.O.B. DESTINATION

If returning as a "No Bid" state reason:

THIS PAGE MUST BE COMPLETED AND RETURNED WITH YOUR BID

CITY OF FORT PIERCE BIDDER'S CHECKLIST

This checklist is provided to assist each Bidder in the preparation of their bid response. Included in this checklist are important requirements, which is the responsibility of each Bidder to submit with their response in order to make their response fully compliant. This checklist is only a guideline, it is the responsibility of each Bidder to read and comply with the Invitation to Bid in its entirety.

Check "Yes" or "No" to each of the following:

	YES	NO
Is Invitation to Bid cover page (page 1) completed, signed and attached?	<u>✓</u>	<u> </u>
Include proof of proper insurance as stated in bid documents.	<u>✓</u>	<u> </u>
Did you include a list of all materials and equipment to be used in providing the service?	<u>✓</u>	<u> </u>
Is Drug-Free Workplace form signed and enclosed?	<u>✓</u>	<u> </u>
Is Bid Response Form completed, signed and attached?	<u>✓</u>	<u> </u>
All prices have been reviewed for mathematical accuracy, all price corrections initialed, and all price extensions and totals thoroughly checked.	<u>✓</u>	<u> </u>
W-9 Form completed, signed and attached?	<u>✓</u>	<u> </u>
Are one (1) complete reference form included?	<u>✓</u>	<u> </u>
Hard Copy Submissions Only:		
Are two (2) complete bid packages included (one original and one copy)	<u>✓</u>	<u> </u>
Is each Bid Addendum (when issued) signed and included?	<u>✓</u>	<u> </u>
Bid envelope is marked accordingly.	<u>✓</u>	<u> </u>

PLEASE SIGN AND RETURN WITH BID _____





CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY)
02/29/2024

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

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

PRODUCER Brown & Brown Insurance Services, Inc. 817 Beachland Blvd. Vero Beach FL 32963	CONTACT NAME: Ann Marie Tyler
	PHONE (A/C, No, Ext): (772) 231-2828 FAX (A/C, No):
	E-MAIL ADDRESS: AnnMarie.Tyler@bbrown.com
	INSURER(S) AFFORDING COVERAGE
	INSURER A: Landmark American Insurance Company NAIC # 33138
	INSURER B: Republic-Vanguard Insurance Company 40479
	INSURER C: American Builders Insurance Company 11240
	INSURER D: Lloyd's Of London
	INSURER E:
	INSURER F:

COVERAGES CERTIFICATE NUMBER: 23-24 GL/HNOA/WC/XS/ REVISION NUMBER:

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

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS
A	<input checked="" type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS-MADE <input checked="" type="checkbox"/> OCCUR GEN'L AGGREGATE LIMIT APPLIES PER: <input type="checkbox"/> POLICY <input checked="" type="checkbox"/> PROJECT <input type="checkbox"/> LOC OTHER:			LHA114369	12/29/2023	12/29/2024	EACH OCCURRENCE \$ 1,000,000 DAMAGE TO RENTED PREMISES (Ea occurrence) \$ 100,000 MED EXP (Any one person) \$ 5,000 PERSONAL & ADV INJURY \$ 1,000,000 GENERAL AGGREGATE \$ 2,000,000 PRODUCTS - COMP/OP AGG \$ 2,000,000 \$
B	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> OWNED AUTOS ONLY <input checked="" type="checkbox"/> HIRED AUTOS ONLY <input type="checkbox"/> SCHEDULED AUTOS <input checked="" type="checkbox"/> NON-OWNED AUTOS ONLY			CNO6290115-04	12/29/2023	12/29/2024	COMBINED SINGLE LIMIT (Ea accident) \$ 1,000,000 BODILY INJURY (Per person) \$ BODILY INJURY (Per accident) \$ PROPERTY DAMAGE (Per accident) \$ \$
A	<input checked="" type="checkbox"/> UMBRELLA LIAB <input checked="" type="checkbox"/> OCCUR <input checked="" type="checkbox"/> EXCESS LIAB <input type="checkbox"/> CLAIMS-MADE DED <input checked="" type="checkbox"/> RETENTION \$ 0			LHA106038	12/29/2023	12/29/2024	EACH OCCURRENCE \$ 5,000,000 AGGREGATE \$ 5,000,000 \$
C	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	WCV-0296635-05	12/28/2023	12/28/2024	<input checked="" type="checkbox"/> PER STATUTE <input type="checkbox"/> OTH-ER E.L. EACH ACCIDENT \$ 500,000 E.L. DISEASE - EA EMPLOYEE \$ 500,000 E.L. DISEASE - POLICY LIMIT \$ 500,000
D	Professional Liability			ANE4348574.23	12/28/2023	12/28/2024	Each Claim \$1,000,000 Aggregate \$1,000,000

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)
Project: General Contractor Services - Floodproofing a Non-Residential Structure

CERTIFICATE HOLDER

CANCELLATION

City of Fort Pierce - Purchasing Division 100 N US Highway 1 Fort Pierce FL 34950	SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.
	AUTHORIZED REPRESENTATIVE

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Certified Environmentally Responsible Contractor

Certified Contractor	Remnant Construction		
Insurance Carrier	Navigators Specialty Insurance Company		
Policy #	SF23ECPU01127NC	Policy Period	12/29/2023 - 12/29/2024

The potential risk of a pollution event is inherent in all construction work. Such an event can cause significant financial loss for project owners and other contractors at the site and can even impact the community and environment. Some contractors actively manage this risk, while others do not. Environmental Risk Professionals, LLC hereby certifies that the above referenced contractor has distributed protocols to avoid pollution incidents on job sites and has purchased a comprehensive pollution liability insurance policy to provide financial responsibility should an accident arise.

Training – The above referenced contractor has distributed “Pollution Prevention Practices” designed to mitigate common environmental risks associated with their contracting operations. Examples of these written protocols may include, but are not limited to, the following activities:

Chemical Storage
 Solid and Hazardous Waste Management
 General Housekeeping
 Mold Identification and Abatement
 Responding to Spills

Fugitive Dust Control
 Stormwater Pollution Prevention
 Personal Protective Equipment
 Deterring Illicit Abandonment
 Asbestos and Lead Based Paint

Insurance– Even when Pollution Prevention Practices are followed, accidents still happen. Property owners bear the ultimate responsibility for a pollution problem at their site, even if caused by a contractor working on their behalf. A contractor needs to purchase a true pollution liability policy in order to properly protect the entities for whom they perform operations. Environmental Risk Professionals, LLC has reviewed the above referenced pollution liability policy and hereby confirms that it provides the following important financial responsibility provisions:

1. A policy limit of at least \$1,000,000
2. Coverage is primary and non-contributory, with the certificate holders included as Additional Insureds and carrier rights to subrogation waived in their favor
3. On-site and off-site remediation expense for pollution conditions arising from contracting operations
4. No mold exclusion on policy
5. A pollution event includes damage to natural resources
6. Coverage for transportation and disposal of pollutants
7. No limitation to sudden and accidental pollution release only



ENVIRONMENTAL
 RISK PROFESSIONALS

Signed Environmental Risk Professionals, LLC

This certificate was issued on 2/6/2024 and serves as a matter of information only. The Certificate is only valid through the current policy period with an active policy. This certificate confers no rights upon the certificate holder and does not affirmatively or negatively amend, extend or alter the coverage afforded by the policy listed above. This certificate does not constitute a contract between the issuing insurer and the certificate holder.

**General Contractor Services - Floodproofing a Non-Residential Structure
Materials & Equipment**

Subcontractor	Material	Equipment
SAK Enterprises	Flood Barrier System for 3 windows and 2 doors.	Hammer & Drill
DCM Contracting	Lumber, Concrete	Jon Deere Excavator
High Tech Fabricators	Aluminum Railings	Welding Equipment
JT Roofing	TPO Roofing System	Extension Ladder
Lucas Waterproofing	Tremco 350	Paint Brushes
Tubito Painting	Sherwin Williams Loxon S1 and Loxon XP	Paint Brushes, Tape
Davidson Insulation	R-17 Closed Cell Spray Foam and R-19 Closed Cell Spray Foam	Spray cans
Elite Plumbing	PVC Pipe, Catch Basin, Sump Pump	Excavator, Shovels, Hammer, Drill
Elite Gas	500 Gallon Gas Tank, Domem Pigtaills, line for connection	Excavator, Shovels, Hammer, Drill
Sharkey Air	Roof Stand, Ducts, Duct Board, Silver Tape	Drill, Extension Ladders, Lift or crane.
Complete Electric	Generator	Auger Truck



DRUG~FREE WORKPLACE FORM

The undersigned vendor in accordance with Florida Statute 287.087 hereby certified that
Remnant Construction, LLC does:
 (Name of Business)

1. Publish a statement notifying employees that the unlawful manufacture, distribution, dispensing, possession, or use of a controlled substance is prohibited in the workplace and specifying the actions that will be taken against employees for violations of such prohibition.
2. Inform employees about the dangers of drug abuse in the workplace, the business policy of maintaining a drug-free workplace, any available drug counseling, rehabilitation, and employee assistance programs, and the penalties that may be imposed upon employees for drug abuse violations.
3. Give each employee engaged in providing the commodities or contractual services that are proposed a copy of the statement specified in subsection (1).
4. In the statement specified in subsection (1), notify the employees that, as a condition of working on the commodities or contractual services that are under bid, the employee will abide by the terms of the statement and will notify the employer of any conviction of, or plea of guilty or nolo contendere to, any violation of Chapter 893 or of any controlled substance law of the United States or any state, for a violation occurring in the workplace no later than five (5) days after such conviction.
5. Impose a sanction on or require the satisfactory participation in a drug abuse assistance or rehabilitation program if such is available in the employees community, by any employee who is so convicted.
6. Make a good faith effort to continue to maintain a drug-free workplace through implementation of this section.

As the person authorized to sign the statement, I certify that this firm complies fully with the above requirements.

 Bidder's Signature

2/29/2024

 Date

REFERENCES
BID NO. 2024-004

General Contractor Services – Floodproofing A Non-Residential Structure

Bidder shall submit as a part of the bid package, three (3) Customer references with name of the customer, address, contact person, and telephone number.

Name	Matthew Weber
Contact:	
Address:	9461 Brandywine Lane
	Port St. Lucie, FL 34986
Telephone:	772-216-4342
Email:	Matthew.weber@stlucieschools.org
Name	Sean Donahue
Contact:	
Address:	2555 SE Avenger Circle
	Stuart, FL 34996
Telephone:	772-462-7750
Email:	
Name	Robert Ciaramitaro
Contact:	
Address:	4001 S. Jenkins Road
	Fort Pierce, FL 34981
Telephone:	772-467-4500
Email:	robert.ciaramito@walmart.com

Request for Taxpayer Identification Number and Certification

**Give Form to the
 requester. Do not
 send to the IRS.**

▶ Go to www.irs.gov/FormW9 for instructions and the latest information.

Print or type. See Specific Instructions on page 3.	<p>1 Name (as shown on your income tax return). Name is required on this line. do not leave this line blank. Remnant Construction, LLC</p> <p>2 Business name/disregarded entity name, if different from above</p> <p>3 Check appropriate box for federal tax classification of the person whose name is entered on line 1. Check only one of the following seven boxes.</p> <p><input type="checkbox"/> Individual sole proprietor or single-member LLC <input type="checkbox"/> C Corporation <input type="checkbox"/> S Corporation <input type="checkbox"/> Partnership <input type="checkbox"/> Trust/estate</p> <p><input checked="" type="checkbox"/> Limited liability company. Enter the tax classification (C=C corporation, S=S corporation, P=Partnership) ▶ P</p> <p>Note: Check the appropriate box in the line above for the tax classification of the single-member owner. Do not check LLC if the LLC is classified as a single-member LLC that is disregarded from the owner unless the owner of the LLC is another LLC that is not disregarded from the owner for U.S. federal tax purposes. Otherwise, a single-member LLC that is disregarded from the owner should check the appropriate box for the tax classification of its owner.</p> <p><input type="checkbox"/> Other (see instructions) ▶</p> <p>4 Exemptions (codes apply only to certain entities; not individuals; see instructions on page 3):</p> <p>Exempt payee code (if any) _____</p> <p>Exemption from FATCA reporting code (if any) _____</p> <p>5 Address (number, street, and apt. or suite no.) See instructions. 201 S. 2nd Street, Suite 100</p> <p>6 City, state, and ZIP code Ft. Pierce, FL 349650</p> <p>7 List account number(s) here (optional):</p> <p>Requester's name and address (optional):</p>
--	---

Part I Taxpayer Identification Number (TIN)

Enter your TIN in the appropriate box. The TIN provided must match the name given on line 1 to avoid backup withholding. For individuals, this is generally your social security number (SSN). However, for a resident alien, sole proprietor, or disregarded entity, see the instructions for Part I, later. For other entities, it is your employer identification number (EIN), if you do not have a number, see *How to get a TIN*, later.

Note: If the account is in more than one name, see the instructions for line 1. Also see *What Name and Number To Give the Requester* for guidelines on whose number to enter.

Social security number									
OR									
Employer identification number									
8	2	-	3	4	3	8	8	2	5

Part II Certification

Under penalties of perjury, I certify that:

1. The number shown on this form is my correct taxpayer identification number (or I am waiting for a number to be issued to me); and
2. I am not subject to backup withholding because: (a) I am exempt from backup withholding, or (b) I have not been notified by the Internal Revenue Service (IRS) that I am subject to backup withholding as a result of a failure to report all interest or dividends, or (c) the IRS has notified me that I am no longer subject to backup withholding; and
3. I am a U.S. citizen or other U.S. person (defined below); and
4. The FATCA code(s) entered on this form (if any) indicating that I am exempt from FATCA reporting is correct.

Certification instructions. You must cross out item 2 above if you have been notified by the IRS that you are currently subject to backup withholding because you have failed to report all interest and dividends on your tax return. For real estate transactions, item 2 does not apply. For mortgage interest paid, acquisition or abandonment of secured property, cancellation of debt, contributions to an individual retirement arrangement (IRA), and generally, payments other than interest and dividends, you are not required to sign the certification, but you must provide your correct TIN. See the instructions for Part II, later.

Sign Here	Signature of U.S. person ▶	Date ▶ May 10, 2023
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General Instructions

Section references are to the Internal Revenue Code unless otherwise noted.

Future developments. For the latest information about developments related to Form W-9 and its instructions, such as legislation enacted after they were published, go to www.irs.gov/FormW9.

Purpose of Form

An individual or entity (Form W-9 requester) who is required to file an information return with the IRS must obtain your correct taxpayer identification number (TIN) which may be your social security number (SSN), individual taxpayer identification number (ITIN), adoption taxpayer identification number (ATIN), or employer identification number (EIN) to report on an information return the amount paid to you, or other amount reportable on an information return. Examples of information returns include, but are not limited to, the following:

- Form 1099-INT (interest earned or paid)

- Form 1099-DIV (dividends, including those from stocks or mutual funds)
- Form 1099-MISC (various types of income: prizes, awards, or gross proceeds)
- Form 1099-B (stock or mutual fund sales and certain other transactions by brokers)
- Form 1099-S (proceeds from real estate transactions)
- Form 1099-K (merchant card and third party network transactions)
- Form 1098 (home mortgage interest); 1098-E (student loan interest); 1098-T (tuition)
- Form 1099-C (canceled debt)
- Form 1099-A (acquisition or abandonment of secured property)

Use Form W-9 only if you are a U.S. person (including a resident alien), to provide your correct TIN.

If you do not return Form W-9 to the requester with a TIN, you might be subject to backup withholding. See What is backup withholding later.



CITY OF FORT PIERCE

BID NO. 2024-004

GENERAL CONTRACTOR SERVICES – FLOODPROOFING A
NON-RESIDENTIAL STRUCTURE

ADDENDUM NO. 1

This addendum serves the purpose of addressing the questions asked by potential bidders, clarifying the insurance requirements, updating the bid response form, and including the bid bond form which was mistakenly left out of the original bid document.

Questions and Answers

1. Question: Is the new ADA Ramp going to be concrete or wood? Sheet A-2.0, section 1 is unclear for the material of the ramp.
Answer: **The slope of the existing ramp does not meet ADA; It is intended that the wood ramp would be re-constructed with the correct slope and re-framed with the existing deck boards or new wood deck boards, as required.**

2. Question: The new ADA Ramp shows a steel powder coated railing, are we able to make that aluminum powder coated railing to reduce rotting?
Answer: **A powder coated aluminum railing would be acceptable; provide an acceptable aluminum thickness to limit bending.**

3. Question: The Connex/storage unit – are we as the General Contractor removing that for the job to start or will the city be responsible for that?
Answer: **The existing storage unit will require relocating by the current proprietor prior to starting construction; coordinate the date and proposed location with the proprietor.**

4. Question: The kitchen prep area are we as the General Contractor removing that for the job to start or will the city be responsible for that?
Answer: **Any existing kitchen equipment in its present location that interferes with the Project Scope of Work will require relocating by the current proprietor; coordinate the date and an acceptable proposed location with the proprietor.**

5. Question: The exterior ice storage machine, are we as the General Contractor removing that for the job to start or will the city be responsible for that?
Answer: **Any existing business equipment in its present location that interferes with the Project Scope of Work will require relocation by the current proprietor; coordinate the date and an acceptable proposed location with the proprietor.**

6. Question: There is an exterior former window that has plywood covering the opening. Could we flush out the opening for the new Hardee board to go there?

Also, if shelving or a bar is needed in that area, could we include that?

Answer: **The existing window recess on the north face of the building should be framed out and finished to match the adjacent construction finish. Coordinator the need for a shelf or bar with the current proprietor and the Architect.**

7. Question: Would the owner consider new wood piles instead of concrete piles for the existing room 109 (office/storage building)?

Answer: **This item was discussed with the City of Fort Pierce, and it was determined to proceed with the concrete piles as designed. The existing wood piles are to be removed prior to installation of the new concrete piles.**

8. Question: Is there a budget for the project?

Answer: **The budget for this project is not available at this time.**

9. Question: Are there any special inspection processes?

Answer: **No**

10. Question: Could you confirm the finished flooring of the new Office/Storage 109 is plywood?

Answer: **Marine grade plywood is intended only as a sub-floor material. The finish floor will be tiled and grout, specifications for the materials will be provided by the Building Department.**

11. Question: Is temporary cooling with HVAC system required for this project?

Answer: **Coordinate & provide temporary cooling for the areas presently conditioned by the rooftop unit to be temporarily removed as part of the Office/Storage construction.**

12. Question: Who pays the permitting fees?

Answer: **City of Fort Pierce General Fund**

13. Question: Could you please confirm whether the new Hardie board "sand-grooved" cement board siding is a lap siding or is it a sheet product?

Answer: **It is a sheet product. Refer to documentation by Hardie at www.jameshardie.com.**

14. Question: Where is the propane tank tying into? Also, what are the line sizes for the tank?

Answer: **The propane tank is designed to supply the emergency generator being installed as part of this project. The line sizes will be determined by the propane supplier and coordinated with the emergency generator model selected.**

Insurance Requirements

Please disregard the insurance requirements described on page 8, Section II. The insurance requirements for this project are stated on page 49, Article 17 of the Sample Agreement.

Revised Bid Response Form

Please include the attached Revised Bid Response Form in your submission.

Bonds


The Bid Bond (10% required) Form was inadvertently omitted in the original bid document, is included with this addendum, and should be included with your submission.

PDF Attachments

As per the table of contents of the bid document, there are six (6) PDF attachments that were not included on the City's and DemandStar websites and four others, not named in the table of contents. There are a total of ten (10) attachments that relate to the this project that have been included in this addendum.

All other conditions of this bid remain the same.

Please acknowledge receipt of this addendum and include it with your submittal.

Signature:  _____

Signature: Erin O'Brien Manual

Company Name: Remnant Construction, LLC Typed or Printed

Address: 201 S 2nd St., Ste 100
Fort Pierce, FL 34950

Date: 2/29/2024

/gc

Attachments: **Revised Bid Response Form**
 Bid Bond Form
 PDF Attachments



**INVITATION TO BID
CITY OF FORT PIERCE, FORT PIERCE, FLORIDA**

Sealed Bids will be received by the City of Fort Pierce, Fort Pierce, Florida, in the office of the Purchasing Manager until **3:00 PM, Thursday, February 29, 2024** for:

The work associated with floodproofing the exterior walls of the existing wood frame , Little Jim's Bait & Tackle building per FEMA requirements with electrical, plumbing, and other appurtenances associated with the building construction in accordance with the construction plans for the following project site:

GENERAL CONTRACTOR SERVICES – FLOODPROFING A NON-RESIDENTIAL STRUCTURE

Electronic copies of the documents may be obtained from the Office of Purchasing at no cost.

A **Mandatory Pre-Bid Conference** will be held at **10:00 A.M., Thursday, February 15, 2024, Little Jim Bait & Tackle, 601 North Causeway, Fort Pierce City Hall, Fort Pierce, FL 34949**. All interested bidders **MUST** attend this meeting in order for their bids to be considered. Anyone **arriving after 10:15 A.M.** will not be allowed to participate in the bid process.

The City of Fort Pierce encourages Minority Business Enterprise participation.

CITY OF FORT PIERCE

Gelencia Carter

Gelencia Carter, M.P.A
Purchasing Manager



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SECTION 1 - DEFINED TERMS

1.1 Terms used in these "INSTRUCTIONS TO BIDDERS" which are defined in the General Conditions have the meanings assigned to them in the General Conditions.

SECTION 2 - COPIES OF BIDDING DOCUMENTS

2.1 Complete sets of Bidding Documents may be obtained in the manner defined in the Call for Bids.

2.2 Complete sets of Bidding Documents shall be used in preparing Bids; City shall not assume any responsibility for errors or misinterpretations resulting from the use of incomplete sets of Bidding Documents.

2.3 City, in making copies of Bidding Documents available on the above terms, does so only for the purpose of obtaining Bids on the Work and does not confer a license or grant for any other use.

SECTION 3 - QUALIFICATIONS OF BIDDERS

3.1 Each Bid must contain evidence that the Bidder has a valid State of Florida license with a minimum classification of "Certified General Contractor" associated with the company bidding along with evidence of the Bidder's qualifications to do business in the State of Florida. To demonstrate qualifications to perform the Work, each Bidder must submit to City, together with the Bid, information including but not limited to financial data, capability to obtain Payment and Performance and previous experience on similar projects, including references and evidence of authority to conduct business in the jurisdiction where the Project is located. Submittals requested pursuant to this paragraph are in addition to those required elsewhere.

SECTION 4 - EXAMINATION OF CONTRACT DOCUMENTS AND SITE

4.1 Before submitting a Bid, each Bidder must (a) examine the Contract Documents thoroughly; (b) visit the site to familiarize himself with local conditions that may in any manner affect cost, progress, or performance of the Work; (c) familiarize himself with federal, state and local laws, ordinances, rules, regulations and policies that may in any manner affect cost, progress or performance of the Work; (d) study and carefully correlate Bidder's observations with the Contract Documents; and (e) make written requests for interpretations promptly after

EXHIBIT "B"
INSTRUCTION TO BIDDERS

discovering any conflicts, errors, ambiguities of inconsistencies. Written requests must be received prior to the Pre-Bid Conference.

4.2 Reference may be made to the identification of investigations and tests of subsurface and latent physical conditions at the site, or otherwise affecting cost, progress or performance of the Work which have been relied upon by the City Engineer or City Consultant in preparing the Drawings and Specifications. Such reports are available for review by any bidder at the office of the City Engineer. These reports are not guaranteed as to accuracy or completeness, nor are they part of the Contract Documents; they are provided for guidance only. If this information is used by Bidder in preparing his proposal, he shall assume all risks resulting from actual conditions differing from the conditions set out in the reports.

4.3 If a log of test borings showing a record of the data is obtained by the investigation of subsurface conditions by the City, or their consultants, it is expressly understood and agreed that said log of test borings does not constitute a part of the contract, represents only the opinion of the City, or their consultants as to the character of the materials encountered by them in the test borings, is included in the plans or other documents only for the convenience of bidders, and its use is subject to all of the conditions and limitations set forth in this article. Discrepancies must be reported prior to the Pre-Bid Conference.

4.4 Before submitting a Bid, each Bidder shall, at Bidder's own expense, make or obtain any additional investigations, examinations, explorations and tests and obtain any additional information which pertains to the physical conditions (surface, subsurface, and Underground Facilities) at or contiguous to the site or otherwise which may affect cost, progress or performance of the Work and which Bidder deems necessary to determine its Bid for performing the Work in accordance with the time, price and other terms and conditions of the Contract Documents.

4.5 City will provide each Bidder reasonable access to the site to conduct such investigations and tests as each Bidder deems necessary for submission of his Bid. Bidder shall restore site to condition existing prior to conducting said investigations and tests.

4.6 The lands upon which the work is to be performed, rights-of-way for access thereto and other lands designated for use by CONTRACTOR in performing the Work are identified in the Contract Documents. All additional lands and access thereto required for temporary construction facilities or storage of materials and equipment are to be provided by Contractor.

4.7 The submission of the Bid shall be an indication that the Bidder has considered normal local weather conditions (daily and monthly variations) for the previous ten years from the date of the Bid as compiled by the National Weather Service.

SECTION 5 - INTERPRETATIONS

5.1 All questions about the meaning or intent of the Contract Documents shall be submitted to the City Engineer. Bidders are required to advise the City Engineer of any conflicts in the Contract Documents or any discrepancies between conditions noted at the project site and those shown on the Drawings or described in the Specifications. Replies will be issued by Addenda mailed or delivered to all parties recorded by the City's Purchasing Agent as having received the Bidding Documents. Questions received less than seven days prior to the date for the opening of Bids shall not be answered. Only questions answered by formal written Addenda shall be binding. Oral and other interpretations or clarifications will be without legal effect. All addenda shall be issued no less than five days prior to bid opening.

SECTION 6 - BID SECURITY

6.1 Bid Security shall be made payable to City, in an amount of 10 percent of the Bidders maximum Bid price and in the form of a certified or cashier's check or a Bid Bond on the prescribed form attached issued by a Surety.

6.2 The Bid Security of the Lowest and Best Bidder shall be retained until such Bidder has executed the Agreement, furnished the required Contract Security, the Insurance Certificates and Endorsements, and complied with the State of Florida requirements; if the Lowest and Best Bidder fails to execute and deliver the Agreement or furnish the Contract Security within ten (10) days of the receipt of Agreement, City may annul the Notice of Award and the Bid Security of that Bidder may be forfeited. The Bid Security of any Bidder whom City believes to have a reasonable chance of receiving the award may be retained by City until the earlier of the seventh day after the "effective date of the Agreement" (which term is defined in the General Conditions) or the sixty-first day after the Bid opening. Bid Security of other Bidders may be returned within seven days of the Bid opening.

SECTION 7 - CONTRACT TIME

7.1 The time of completion is of the essence of the Contract, and the Bidder awarded the Contract shall proceed with the Work in accordance with the Contract time period specified in the Notice to Proceed for each project. In the event of failure to complete the Work within the time specified, the City may assess damages and/or impose penalties as provided by law or the Contract Documents, unless an appropriate extension of time has been granted by the City.

SECTION 8 - LIQUIDATED DAMAGES

8.1 Provisions for liquidated damages, if any, are set forth in the Agreement.

EXHIBIT "B"
INSTRUCTION TO BIDDERS

SECTION 9 – SUBSTITUE MATERIAL AND EQUIPMENT

9.1 Not applicable.

SECTION 10 - SUBCONTRACTORS, ETC.

10.1 The City shall receive from the Apparent Lowest and Best Bidder (or the Lowest and Best Bidder), within ten days after receipt of the Bids, a list of all Subcontractors and other persons and organizations, including those who are to furnish the principal items of material and equipment. This list shall include the name and address of the Subcontractor, person or organization, a description of the services, materials or equipment to be supplied. Such list shall be accompanied by a statement of experience with pertinent information as to similar projects and other evidence of qualification for each such Subcontractor, person or organization. If City has reasonable objection to any proposed Subcontractor, other person or organization, the City may, before the Notice of Award, request the Apparent Lowest and Best Bidder (or the Lowest and Best Bidder) to submit an acceptable substitute without an increase in Bid price. If the Apparent Lowest and Best Bidder (or the Lowest and Best Bidder) declines to make any such substitution, the Contract may not be awarded to such Bidder at the City's sole discretion. Bidder's declining to make any such substitution shall constitute grounds for sacrificing his Bid Security. Any Subcontractor, other person or organization so listed and to whom City does not make written objection prior to the Notice of Award will be deemed acceptable to City, but City does not thereby waive any right it may have against the Contractor because of the actions or omissions of said Subcontractor, other person or organization, or request from the Contractor to replace Sub-contractors depending on their performance or workmanship.

SECTION 11 - BID FORM

11.1 The Bid Form(s) is included in the Contract Documents.

11.2 Bid Forms must be completed in ink or typewritten. **Bid prices shall be provided for all items listed. All partial bid proposals shall be rejected.**

11.3 Bids by corporations must be executed in the corporate name by the president or a vice-president (or other corporate officer, accompanied by evidence of authority to sign), and the corporate seal must be affixed and attested by the

EXHIBIT "B"
INSTRUCTION TO BIDDERS

secretary or an assistant secretary. The corporate address and state of incorporation shall be shown below the signature.

11.4 Bids by partnership must be executed in the partnership name and signed by an authorized partner, whose title must appear under the signature.

11.5 All names and titles must be typed or printed below the signature.

11.6 The Bid shall contain an acknowledgment of receipt of all Addenda (the numbers of which shall be filled in on the Bid Form).

11.7 The address to which communications regarding the Bid are to be directed must be shown.

SECTION 12 - SUBMISSION OF BIDS

12.1 Submit bids on Bid Forms supplied herein. Bids shall be submitted at the time and place indicated in the CALL FOR BIDS and shall be included in an opaque sealed envelope marked with the Project title and name and address of the Bidder and accompanied by the Bid Security.

If the bid is sent through the mail or other delivery system, the sealed envelope shall be enclosed in a separate envelope with the notation "BID ENCLOSED" on the face thereof.

12.2 Bids received after the time and date specified in the CALL FOR BIDS shall not be considered and will be returned unopened.

SECTION 13 - MODIFICATION AND WITHDRAWAL OF BIDS

13.1 Bids may be modified or withdrawn by an appropriate document duly executed (in the manner that a Bid must be executed) and delivered to the place where Bids are to be submitted at any time prior to the opening of Bids. Withdrawal of a bid will not prejudice the rights of Bidder to file a new Bid

SECTION 14 - OPENING OF BIDS

14.1 At the specified time and place as indicated in the CALL FOR BIDS, Bids shall be opened publicly and read aloud.

14.2 An abstract of the amounts of the base bids and major alternates (if any) will be prepared and made available within a reasonable time after the opening of Bids.

14.3 Quantities of work and materials in the Bid Form(s) or in the plans are approximate only and for the purpose of providing a bidder with information that may

EXHIBIT "B"
INSTRUCTION TO BIDDERS

be used for the computation of the Base Bid, to obtain unit prices for the approval of payments for the work done, and to determine additions or deletions to the Contract Sum. It shall be the Bidder's responsibility to determine if a different quantity of any item required and to bring the same to the attention of the City Engineer, or Consultant prior to submittal of the Bid.

14.4 Notwithstanding any other provision contained in the Contract Documents, the City reserves the right to reject any and all bids, or portions thereof, and waive any and all irregularities, and the right to disregard any or all nonconforming, unbalanced, or conditional bids or counter proposals. The City may reject, as non-responsive, any or all bids where bidders fail to acknowledge receipt of addenda as prescribed. If the City elects not to reject a bid which fails to acknowledge receipt of any addendum, the bid shall be construed as though the addendum has been received and acknowledged by the Bidder.

14.5 The bids supplied shall be a Unit Price Bid. Unit Price bids for the work items shall be based on estimated quantities for the purpose of determining the best and Lowest Bidder and unit prices as shown in the Bid Form (see Paragraph 14.3 above). In the event that work in addition to estimated quantities is required, compensation to the Contractor shall be based on the unit prices indicated in the Bid Form. For basis of award, discrepancies between the total Bid and the sum of columns of figures shall be resolved in favor of the total Bid. Contractor shall be responsible for the accuracy of the arithmetic of the bid, in particular with the addition of the columns to match the total Bid. City has the right to accept the total Bid whether it is less or more than any additions of any columns or extensions and prorate the unit prices to match the total Bid amount. Contractor shall lose his bid deposit if contract award is not accepted by such Contractor.

SECTION 15 - BIDS TO REMAIN OPEN

15.1 All Bids shall remain open for sixty (60) days after the day of the Bid opening, but City may, in its sole discretion, release any Bid and return the Bid Security prior to that date.

15.2 Extensions of time when bids shall remain opened beyond the sixty-day period may be made only by mutual agreement between the City, the Lowest and Best Bidder, and the Surety, if any, for the Lowest and Best Bidder.

SECTION 16 - AWARD OF CONTRACT

16.1 Award shall be based on products, equipment and materials named in the Contract Documents.

16.2 In evaluating Bids, City shall consider the qualifications of the Bidders, and whether or not the Bids comply with the prescribed requirements.

16.3 In evaluating Bids, City shall consider the information provided by the Bidder as described in these INSTRUCTIONS TO BIDDERS.

16.4 The Lowest and Best Bidder shall submit, to City, documentation evidencing its capability to obtain Performance and Payment Bonds and to perform classes of work contemplated, and the necessary plant and sufficient capital, to execute the work properly within the time specified. **This information must be received by City as per Section 10 above.**

16.5 The City shall require the Lowest and Best Bidder to submit a certified statement describing his organization, plant, manpower and financial resources, and list all previous and/or ongoing construction contracts over the last 5 years, regardless of amount or completion status. Information shall be submitted on the Associated General Contractors of America Form "Standard Questionnaires and Financial Statement for Bidders", available from AGC, 1957 "E" Street, N.W., Washington, D.C., 20006, or other form acceptable to City. The information shall be certified by a Certified Public Accountant for bids over \$25,000 and shall be submitted to the City prior to Contract Award. The City, at its discretion, may require any or all of the above-listed information from any other Bidder.

16.6 City may consider qualifications and experience of Subcontractors and other persons and organizations (including those who are to furnish the principal items of material or equipment) proposed for those portions of the Work as to which the identity of Subcontractors and other persons and organizations must be submitted as provided in the Bid Form and Section 10 of these Instructions.

16.7 City may conduct such investigations and require supplemental information as it deems necessary to assist in the evaluation of any Bid and to establish the responsibility, qualifications and financial ability of the Bidders, proposed Subcontractors, proposed equipment and material suppliers, and other persons and organizations to do the Work in accordance with the Contract Documents to City's satisfaction within the prescribed time.

16.8 City reserves the right to reject the Bid of any Bidder who does not pass any such evaluation to City's satisfaction.

EXHIBIT "B"
INSTRUCTION TO BIDDERS

16.9 City reserves the right to reject the Bid of any Bidder which is or was behind on the approved completion schedule for any existing or past contracts with the City, is in litigation with the City, has previously defaulted on a contract with the City, has delayed or skipped subcontractor payment(s), or has provided unsatisfactory performance on current or previous City Contracts.

16.10 If the Contract is to be awarded, it will be awarded to the best and lowest responsible Bidder on the basis of the total Bid amount, qualifications, experience, and ability to perform the work. City reserves the right to reject all bids or portions thereof.

SECTION 17 - BONDS AND INSURANCE

17.1 The General and Special Supplemental Conditions set forth the City's requirements as to Bonds and Insurance. When the Successful Bidder delivers the executed Agreement to City, it shall be accompanied by the required Bonds, Insurance Certificates, and Endorsements on forms prescribed by City. The City must receive with Successful Bidder executed Agreement copies of all insurance policies for the insurance requirements set forth in the General and Special Supplemental Conditions. Attorneys-in-fact who sign Bid Bonds, Performance Bonds and Payment Bonds must file with such Bonds a certified copy of their power-of-attorney to sign the Bonds.

SECTION 18 - SIGNING OF AGREEMENT

18.1 When City gives a Notice of Award to the Successful Bidder, it will be accompanied by at least two (2) unsigned counterparts of the Agreement and all other Contract Documents. Within ten (10) days of receipt thereafter, Successful Bidder shall sign and deliver at least two (2) counterparts of the Agreement to City, together with the documents described in Section 17 above attached. Within ten (10) days after receipt of the properly executed and completed submittal, City will deliver a fully signed counterpart to Successful Bidder.

18.2 Failure by a Successful Bidder to whom the contract is awarded to execute the Agreement, or to correctly complete or furnish required Bonds or insurance certificates and endorsements, shall be just cause for the annulment of the award and the forfeiture of the Bid Security.

18.3 If Successful Bidder is a Corporation, the Agreement shall be signed by the President, attested by the Secretary, and have the Corporate Seal affixed. The executed Agreement shall be accompanied by a Certificate of Good Standing dated within 30 days and an Incumbency Certificate, under oath, executed by Legal

EXHIBIT "B"
INSTRUCTION TO BIDDERS

Counsel or the Secretary of the Corporation, and the Corporate Seal if by the Secretary.

18.4 A Successful Bidder who is awarded the Contract and fails to execute the Agreement or correctly complete or furnish the required Bonds, insurance certificates and endorsements within the time period specified in Article 10, Section 18.1 above or fails to comply with submittal requirements specified in Article 20 shall be liable to the City for all damages resulting there from, including reasonable attorneys' fees and costs, and attorneys' fees and costs on appeal. The Bid Security forfeited shall not be a limitation thereon.

SECTION 19 - SCHEDULE OF SUBMITTALS

19.1 Within ten (10) days prior to Contract Award, the Successful Bidder shall submit a preliminary progress schedule and a schedule of projected payments in accordance with the General Conditions. This schedule shall show in a summary fashion the order in which the Successful Bidder proposes to perform the Work and shall indicate approximate starting and completion dates for said projects. This progress schedule shall not replace, but serve as a basis for, the progress schedule submittals to be developed as required in the Specifications. Failure by the Successful Bidder to furnish this Schedule of Submittals, as required, in a sufficiently complete and responsible manner, shall void evaluation of the Bid, and will constitute proof that the Successful Bidder has abandoned all his rights and interests in the award, and his Bid Security may be declared forfeited to the City as liquidated damages, and the Work may be awarded to another Bidder.

**SECTION 20 - SPECIAL WARRANTY, GUARANTEE, BOND, INSURANCE,
MAINTENANCE, AND CORRECTION PERIOD REQUIREMENTS**

20.1 There may be special requirements pertaining to Warranty, Guarantee, Bonds, Insurance, Maintenance, and the Correction Period which are described in the Contract Documents. Bidders shall review these special requirements, if applicable, and reflect in their bids all costs associated therewith.

SECTION 21 – MATERIALS

21.1 Materials produced by convict labor are prohibited from use on the PROJECT unless specific written authority for such use is obtained.

21.2 State produced materials are now allowed.

in the public interest and approved by the CITY.

END OF SECTION

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Bid Forms

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**FRONT PAGE OF
PUBLIC PAYMENT BOND**

Florida Statute 255.05

BOND NO. 0261392

CONTRACTOR: Remnant Construction, LLC
201 S 2nd Street, Ste 100,
Fort Pierce, FL 34950
772-577-5850

SURETY: Berkley Insurance Company
475 Steamboat Road,
Greenwich, CT 06830
203-542-3800

AGENT: Acrisure
220 Congress Park Dr., Ste 100
Delray Beach, FL 33445
561-454-8202

OBLIGEE: City of Fort Pierce
100 North US Hwy 1,
Fort Pierce, FL 34950
772-467-3000

PROJECT: 2024-004 – General Contractor Services – Floodproofing a Non-Residential Structure

LOCATION: Fort Pierce, FL

Bond No. 0261392

Document A312™ – 2010

Conforms with The American Institute of Architects AIA Document 312

Performance Bond

CONTRACTOR:

(Name, legal status and address)

Remnant Construction, LLC
201 S 2nd Street, Suite 100
Fort Pierce, FL 34950

SURETY:

(Name, legal status and principal place of business)

Berkley Insurance Company
475 Steamboat Road
Greenwich, CT 06830
Mailing Address for Notices

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

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

OWNER:

(Name, legal status and address)

City of Fort Pierce
100 North US Hwy 1
Fort Pierce, FL 34950

CONSTRUCTION CONTRACT

Date: June 10, 2024

Amount: \$ 266,048.00 Two Hundred Sixty Six Thousand Forty Eight Dollars and 00/100

Description:

(Name and location)

2024-004 - General Contractor Services - Floodproofing a Non-Residential Structure

BOND

Date: July 11, 2024

(Not earlier than Construction Contract Date)

Amount: \$ 266,048.00 Two Hundred Sixty Six Thousand Forty Eight Dollars and 00/100

Modifications to this Bond: None See Section 16

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

Remnant Construction, LLC

SURETY

Company: *(Corporate Seal)*

Berkley Insurance Company

Signature: _____

Name: *Brandon Nobile*
and Title: *CEO*

Signature: _____

Name: Brett Rosenhaus
and Title: Attorney-in-Fact

(Any additional signatures appear on the last page of this Performance Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

Acrisure
220 Congress Park Drive, Suite 100
Delray Beach, FL 33445
561.454.8210

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

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

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

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

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

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

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

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

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

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

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

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

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

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

- .1 the responsibilities of the Contractor for correction of defective work and completion of the Construction Contract;
- .2 additional legal, design professional and delay costs resulting from the Contractor's Default, and resulting from the actions or failure to act of the Surety under Section 5; and
- .3 liquidated damages, or if no liquidated damages are specified in the Construction Contract, actual damages caused by delayed performance or non-performance of the Contractor.

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

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

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

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

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

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

§ 14 Definitions

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

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

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

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

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

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

§ 16 Modifications to this bond are as follows:

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____
(Corporate Seal)

SURETY

Company: _____
(Corporate Seal)

Signature: _____
Name and Title:
Address

Signature: _____
Name and Title:
Address

Bond No. 0261392

Document A312™ – 2010

Conforms with The American Institute of Architects AIA Document 312

Payment Bond

CONTRACTOR:
(Name, legal status and address)

Remnant Construction, LLC
201 S 2nd Street, Suite 100
Fort Pierce, FL 34950

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

Berkley Insurance Company
475 Steamboat Road
Greenwich, CT 06830
Mailing Address for Notices

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

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

OWNER:
(Name, legal status and address)

City of Fort Pierce
100 North US Hwy 1
Fort Pierce, FL 34950

CONSTRUCTION CONTRACT

Date: June 10, 2024

Amount: \$266,048.00 Two Hundred Sixty Six Thousand Forty Eight Dollars and 00/100

Description:

(Name and location)

2024-004 - General Contractor Services - Floodproofing a Non-Residential Structure

BOND

Date: July 11, 2024

(Not earlier than Construction Contract Date)

Amount: \$266,048.00 Two Hundred Sixty Six Thousand Forty Eight Dollars and 00/100

Modifications to this Bond: None See Section 18

CONTRACTOR AS PRINCIPAL

Company: *(Corporate Seal)*

Remnant Construction, LLC

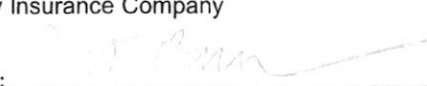
Signature: 

Name and Title: Brandon Nobile
TIC

SURETY

Company: *(Corporate Seal)*

Berkley Insurance Company

Signature: 

Name and Title: Brett Rosenhaus
Attorney-in-Fact

(Any additional signatures appear on the last page of this Payment Bond.)

(FOR INFORMATION ONLY — Name, address and telephone)

AGENT or BROKER:

Acrisure
220 Congress Park Drive, Suite 100
Delray Beach, FL 33445
561.454.8210

OWNER'S REPRESENTATIVE:

(Architect, Engineer or other party:)

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

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

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

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

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

§ 5.1 Claimants, who do not have a direct contract with the Contractor,

- .1 have furnished a written notice of non-payment to the Contractor, stating with substantial accuracy the amount claimed and the name of the party to whom the materials were, or equipment was, furnished or supplied or for whom the labor was done or performed, within ninety (90) days after having last performed labor or last furnished materials or equipment included in the Claim; and
- .2 have sent a Claim to the Surety (at the address described in Section 13).

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

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

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

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

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

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

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

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

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

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

§ 12 No suit or action shall be commenced by a Claimant under this Bond other than in a court of competent jurisdiction in the state in which the project that is the subject of the Construction Contract is located or after the expiration of one year from the date (1) on which the Claimant sent a Claim to the Surety pursuant to Section 5.1.2 or 5.2, or (2) on which the last labor or service was performed by anyone or the last materials or equipment were furnished by anyone under the Construction Contract, whichever of (1) or (2) first occurs. If the provisions of this Paragraph are void or prohibited by law, the minimum period of limitation available to sureties as a defense in the jurisdiction of the suit shall be applicable.

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

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

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

§ 16 Definitions

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

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

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

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

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

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

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

§ 18 Modifications to this bond are as follows:

The provisions and limitations of Section 255.05 Florida Statutes, including but not limited to the notice and time limitations in Sections 255.05(2) and 255.05(10), are incorporated in this bond by reference.

(Space is provided below for additional signatures of added parties, other than those appearing on the cover page.)

CONTRACTOR AS PRINCIPAL

Company: _____ *(Corporate Seal)*

SURETY

Company: _____ *(Corporate Seal)*

Signature: _____
Name and Title:
Address

Signature: _____
Name and Title:
Address

POWER OF ATTORNEY
BERKLEY INSURANCE COMPANY
WILMINGTON, DELAWARE

KNOW ALL MEN BY THESE PRESENTS, that BERKLEY INSURANCE COMPANY (the "Company"), a corporation duly organized and existing under the laws of the State of Delaware, having its principal office in Greenwich, CT, has made, constituted and appointed, and does by these presents make, constitute and appoint: *Brett Rosenhaus or Dale A. Belis of Acrisure, LLC dba Nielson, Rosenhaus & Associates of Delray Beach, FL* its true and lawful Attorney-in-Fact, to sign its name as surety only as delineated below and to execute, seal, acknowledge and deliver any and all bonds and undertakings, with the exception of Financial Guaranty Insurance, providing that no single obligation shall exceed **One Hundred Million and 00/100 U.S. Dollars (U.S.\$100,000,000.00)**, to the same extent as if such bonds had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office in their own proper persons.

This Power of Attorney shall be construed and enforced in accordance with, and governed by, the laws of the State of Delaware, without giving effect to the principles of conflicts of laws thereof. This Power of Attorney is granted pursuant to the following resolutions which were duly and validly adopted at a meeting of the Board of Directors of the Company held on January 25, 2010:

RESOLVED, that, with respect to the Surety business written by Berkley Surety, the Chairman of the Board, Chief Executive Officer, President or any Vice President of the Company, in conjunction with the Secretary or any Assistant Secretary are hereby authorized to execute powers of attorney authorizing and qualifying the attorney-in-fact named therein to execute bonds, undertakings, recognizances, or other suretyship obligations on behalf of the Company, and to affix the corporate seal of the Company to powers of attorney executed pursuant hereto; and said officers may remove any such attorney-in-fact and revoke any power of attorney previously granted; and further

RESOLVED, that such power of attorney limits the acts of those named therein to the bonds, undertakings, recognizances, or other suretyship obligations specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated; and further

RESOLVED, that such power of attorney revokes all previous powers issued on behalf of the attorney-in-fact named; and further

RESOLVED, that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligation of the Company; and such signature and seal when so used shall have the same force and effect as though manually affixed. The Company may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Company, notwithstanding the fact that they may have ceased to be such at the time when such instruments shall be issued.

IN WITNESS WHEREOF, the Company has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 2nd day of May, 2024.



Attest:
By *Philip S. Welt*
Philip S. Welt
Executive Vice President & Secretary

Berkley Insurance Company
By *Jeffrey M. Hafler*
Jeffrey M. Hafler
Senior Vice President

STATE OF CONNECTICUT)

) ss:

COUNTY OF FAIRFIELD)

Sworn to before me, a Notary Public in the State of Connecticut, this 2nd day of May, 2024, by Philip S. Welt and Jeffrey M. Hafler who are sworn to me to be the Executive Vice President and Secretary, and the Senior Vice President, respectively, of Berkley Insurance Company.

MARIA C. RUNDBAKEN
NOTARY PUBLIC
CONNECTICUT

Maria C. Rundbaken
Notary Public, State of Connecticut

MY COMMISSION EXPIRES 04-30-2029

CERTIFICATE

I, the undersigned, Assistant Secretary of BERKLEY INSURANCE COMPANY, DO HEREBY CERTIFY that the foregoing is a true, correct and complete copy of the original Power of Attorney; that said Power of Attorney has not been revoked or rescinded and that the authority of the Attorney-in-Fact set forth therein, who executed the bond or undertaking to which this Power of Attorney is attached, is in full force and effect as of this date.

Given under my hand and seal of the Company, this 11th day of July, 2024.



Vincent P. Forte
Vincent P. Forte

Hi Jennifer,

Can you please send me the cancellation paperwork from the City?

Thank you!

SBA CLIENTS: The SBA will be shut down from 1:00 PM EST on September 26th until 9:00 AM October 1st. Please make sure all bond request are submitted accordingly.

Kailee Rosenhaus

Sr. Account Manager



220 Congress Park Drive

Suite 100

Delray Beach, FL 33445

Email: kaileerosenhaus@acrisure.com

Direct: 561-454-8202

www.Acrisure.com/Southeast



In compliance with new federal regulations, if you wish to opt out of receiving e-mails from me concerning our products or services - please notify me by return e-mail. This email and any files transmitted with it may contain PRIVILEGED or CONFIDENTIAL information and may be read or used only by the intended recipient. If you are not the intended recipient of the email or any of its attachments, please be advised that you have received this email in error and that any use, dissemination, distribution, forwarding, printing, or copying of this email or any attached files is strictly prohibited. If you have received this email in error, please immediately purge it and all attachments and notify the sender by reply email or contact the sender at the number listed.

From: Jennifer Knowles <jknowles@remnantconstruction.com>

Sent: Tuesday, September 24, 2024 10:53 AM

To: Kailee Rosenhaus <KaileeRosenhaus@acrisure.com>

Subject: RE: Invoice 13264

Kailee, please cancel the bond for the City of Fort Pierce Floodproofing project.

Thank you,

Jen Knowles

Remnant
CONSTRUCTION

201 S 2nd St., Ste. 100

Fort Pierce, FL 34950

(772) 577-5850 ext. 101

jknowles@remnantconstruction.com

From: Kailee Rosenhaus <KaileeRosenhaus@acrisure.com>

Sent: Thursday, September 19, 2024 2:21 PM

Document A310™ – 2010

Conforms with The American Institute of Architects AIA Document 310

Bid Bond

CONTRACTOR:

(Name, legal status and address)

Remnant Construction, LLC
201 S 2nd Street, Suite 100
Fort Pierce, FL 34950

SURETY:

(Name, legal status and principal place of business)

Berkley Insurance Company
475 Steamboat Road
Greenwich, CT 06830

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

OWNER:

(Name, legal status and address)

City of Fort Pierce
100 North U.S. #1
Fort Pierce, FL 34950

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

BOND AMOUNT: \$ 10%

Ten Percent of Amount Bid

PROJECT:

(Name, location or address, and Project number, if any)

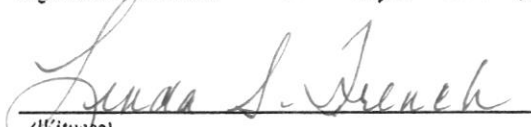
General Contractor Services - Floodproofing a Non-Residential Structure, Bid No. 2024-004

The Contractor and Surety are bound to the Owner in the amount set forth above, for the payment of which the Contractor and Surety bind themselves, their heirs, executors, administrators, successors and assigns, jointly and severally, as provided herein. The conditions of this Bond are such that if the Owner accepts the bid of the Contractor within the time specified in the bid documents, or within such time period as may be agreed to by the Owner and Contractor, and the Contractor either (1) enters into a contract with the Owner in accordance with the terms of such bid, and gives such bond or bonds as may be specified in the bidding or Contract Documents, with a surety admitted in the jurisdiction of the Project and otherwise acceptable to the Owner, for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof; or (2) pays to the Owner the difference, not to exceed the amount of this Bond, between the amount specified in said bid and such larger amount for which the Owner may in good faith contract with another party to perform the work covered by said bid, then this obligation shall be null and void, otherwise to remain in full force and effect. The Surety hereby waives any notice of an agreement between the Owner and Contractor to extend the time in which the Owner may accept the bid. Waiver of notice by the Surety shall not apply to any extension exceeding sixty (60) days in the aggregate beyond the time for acceptance of bids specified in the bid documents, and the Owner and Contractor shall obtain the Surety's consent for an extension beyond sixty (60) days.

If this Bond is issued in connection with a subcontractor's bid to a Contractor, the term Contractor in this Bond shall be deemed to be Subcontractor and the term Owner shall be deemed to be Contractor.

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


Signed and sealed this 29th day of February, 2024



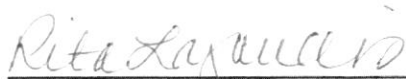
(Witness)

Remnant Construction, LLC

(Principal) (Seal)

By: 

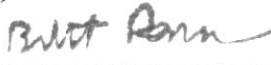
(Title)



(Witness) Rita Lazarides

Berkley Insurance Company

(Surety) (Seal)

By: 

(Title) Brett Rosenhaus Attorney-in-Fact

POWER OF ATTORNEY
BERKLEY INSURANCE COMPANY
WILMINGTON, DELAWARE

NOTICE: The warning found elsewhere in this Power of Attorney affects the validity thereof. Please review carefully.

KNOW ALL MEN BY THESE PRESENTS, that BERKLEY INSURANCE COMPANY (the "Company"), a corporation duly organized and existing under the laws of the State of Delaware, having its principal office in Greenwich, CT, has made, constituted and appointed, and does by these presents make, constitute and appoint: Brett Rosenhaus or Dale A. Belis of Acrisure, LLC dba Nielson, Rosenhaus & Associates of Delray Beach, FL its true and lawful Attorney-in-Fact, to sign its name as surety only as delineated below and to execute, seal, acknowledge and deliver any and all bonds and undertakings, with the exception of Financial Guaranty Insurance, providing that no single obligation shall exceed One Hundred Million and 00/100 U.S. Dollars (U.S.\$100,000,000.00), to the same extent as if such bonds had been duly executed and acknowledged by the regularly elected officers of the Company at its principal office in their own proper persons.

This Power of Attorney shall be construed and enforced in accordance with, and governed by, the laws of the State of Delaware, without giving effect to the principles of conflicts of laws thereof. This Power of Attorney is granted pursuant to the following resolutions which were duly and validly adopted at a meeting of the Board of Directors of the Company held on January 25, 2010:

RESOLVED, that, with respect to the Surety business written by Berkley Surety, the Chairman of the Board, Chief Executive Officer, President or any Vice President of the Company, in conjunction with the Secretary or any Assistant Secretary are hereby authorized to execute powers of attorney authorizing and qualifying the attorney-in-fact named therein to execute bonds, undertakings, recognizances, or other suretyship obligations on behalf of the Company, and to affix the corporate seal of the Company to powers of attorney executed pursuant hereto; and said officers may remove any such attorney-in-fact and revoke any power of attorney previously granted; and further

RESOLVED, that such power of attorney limits the acts of those named therein to the bonds, undertakings, recognizances, or other suretyship obligations specifically named therein, and they have no authority to bind the Company except in the manner and to the extent therein stated; and further

RESOLVED, that such power of attorney revokes all previous powers issued on behalf of the attorney-in-fact named; and further

RESOLVED, that the signature of any authorized officer and the seal of the Company may be affixed by facsimile to any power of attorney or certification thereof authorizing the execution and delivery of any bond, undertaking, recognizance, or other suretyship obligation of the Company; and such signature and seal when so used shall have the same force and effect as though manually affixed. The Company may continue to use for the purposes herein stated the facsimile signature of any person or persons who shall have been such officer or officers of the Company, notwithstanding the fact that they may have ceased to be such at the time when such instruments shall be issued.

IN WITNESS WHEREOF, the Company has caused these presents to be signed and attested by its appropriate officers and its corporate seal hereunto affixed this 25th day of March, 2020.



Attest:
By Ira S. Lederman
Executive Vice President & Secretary

Berkley Insurance Company
By Jeffrey M. Hafter
Senior Vice President

STATE OF CONNECTICUT)
) ss:
COUNTY OF FAIRFIELD)

Sworn to before me, a Notary Public in the State of Connecticut, this 25th day of March, 2020, by Ira S. Lederman and Jeffrey M. Hafter who are sworn to me to be the Executive Vice President and Secretary, and the Senior Vice President, respectively, of Berkley Insurance Company.

MARIA C RUNDBAKEN
NOTARY PUBLIC
CONNECTICUT
MY COMMISSION EXPIRES
APRIL 30, 2024

Maria C. Rundbaker
Notary Public, State of Connecticut

CERTIFICATE

I, the undersigned, Assistant Secretary of BERKLEY INSURANCE COMPANY, DO HEREBY CERTIFY that the foregoing is a true, correct and complete copy of the original Power of Attorney; that said Power of Attorney has not been revoked or rescinded and that the authority of the Attorney-in-Fact set forth therein, who executed the bond or undertaking to which this Power of Attorney is attached, is in full force and effect as of this date.

under my hand and seal of the Company, this 29th day of February, 2024.



Vincent P. Forte

February 29, 2024

City of Fort Pierce Purchasing Department
Room 101
100 North U.S. #1
Fort Pierce, FL 34950

RE: Bid No. 2024-004

To whom it may concern:

Please note we included a bid bond for Bid No. 2024-0004 "General Contractor Services – Floodproofing A Non-Residential Structure," per the bid requirements. It utilized our bonding company's bid bond form. Addendum #1 included the bid bond form that was to be utilized. However, we did not have enough time from issuance of Addendum #1 to utilize the bid bond form included in Addendum #1.

Thank you,



Erin O'Brien

Remnant Construction



THE SUNRISE CITY
FORT PIERCE
PURCHASING
DEPARTMENT

Florida

NOTICE OF AWARD

Date:

To:

Bid Proposal:

Date of Bid Opening:

Approved by Commission:

Award Amount:

You are hereby notified that you are the Lowest and Best Bidder on the Bid Proposal noted above. Upon compliance with the conditions precedent to be fulfilled by you within the time specified, the Agreement will be executed and delivered to you. Enclosed are the following:

Item

Notice of Award
Agreement between the City and Contractor
Performance Bond
Payment Bond

Please take the following actions:

1. Execute Agreement and Notice of Award.
2. Have your insurance company complete bond forms and attach notarized Acknowledgment of Authorized Representative.
3. Have your insurance company complete Certificates of Insurance and Endorsements, in accordance with the requirements stated in Article 17 of the agreement.
4. Form CG 20 10: Please provide a copy of the actual endorsement issued to the policy, Form CG 20 10, which affords the required additional insured coverage. Please return all documents with acceptance of award.
5. Return documents enclosed within fifteen (15) days after receipt to:

Mailing Address:

Purchasing Manager
CITY OF FORT PIERCE
100 North U.S. #1
Fort Pierce, FL 34950

Delivery Address:

Purchasing Manager
CITY OF FORT PIERCE
100 North U.S. #1
Fort Pierce, FL 34950

The contract documents must be signed by one of the officers registered with the State of Florida on the attached list; if not on list, provide a letter or copy of corporate resolution authorizing the individual to sign contract documents on behalf of the corporation.



THE SUNRISE CITY
FORT PIERCE
PURCHASING
DEPARTMENT

FORT PIERCE
Florida



NOTICE TO PROCEED

Date: _____

To: _____

Notice to Proceed on Project: **General Contractor Services – Floodproofing A Non-Residential Structure**

Bid No.: **2024-004**

Cost of Project based on Unit Prices by Agreement: \$ _____

You are hereby notified to proceed with the Work on the subject Project on or before _____, 2023, and to obtain Substantial completion within 180 calendar days and Final completion within 210 calendar days. Find attached four (4) sets of the subject project drawings.

The completion date for **this project** work shall be: _____, **2023**.

OWNER:

CITY OF FT. PIERCE, FLORIDA
100 NORTH U.S. HIGHWAY 1
FT. PIERCE, FL 34950

BY:

Paul Thomas
City Manager

ACKNOWLEDGE RECEIPT OF NOTICE

By: _____

Contractor

Date

END OF SECTION



CHANGE ORDER FORM
CITY OF FORT PIERCE

PROJECT: **General Contractor Services – Floodproofing A Non-Residential Structure**

DATE: _____ CONTRACTOR: _____

OWNER: CITY OF FORT PIERCE AGREEMENT DATE: _____

CHANGE ORDER REQUESTED BY: City _____ Contractor _____

THE FOLLOWING CHANGES ARE MADE TO THE CONTRACT DOCUMENTS:

CONTRACT AMOUNT AND CONTRACT TIME:

Original CONTRACT AWARD AMOUNT \$ _____

Current CONTRACT AMOUNT ADJUSTED
by Previous CHANGE ORDER(S) \$ _____

Net (Increase) (Decrease) of CONTRACT
AMOUNT resulting from this CHANGE
ORDER \$ _____

Current CONTRACT AMOUNT Including
this CHANGE ORDER \$ _____

ORIGINAL CONTRACT TIME _____ Calendar Days

Current CONTRACT TIME ADJUSTED
by Previous CHANGE ORDER _____ Calendar Days

Net (Increase) (Decrease) Resulting
from this CHANGE ORDER _____ Calendar Days

Current CONTRACT COMPLETION DATE
including this CHANGE ORDER _____

(Change Order No. _____, Page 1 of 2)

CHANGES ORDERED:

I. GENERAL: This CHANGE ORDER is necessary to cover changes in the Work to be performed under the Contract Documents. General Conditions, Supplementary Conditions as applicable, Specifications, and all parts listed in Article 1, Definitions, of the General Conditions, apply to and govern all Work under this CHANGE ORDER.

II. REQUIRED CHANGES:

III. JUSTIFICATION:

IV. PAYMENT:

Payment for the above listed items shall be made according to the Agreement.

V. APPROVAL AND CHANGE AUTHORIZATION:

Acknowledgments: The aforementioned change(s), and work affected thereby, is subject to all provisions of the original Agreement not specifically changed by this Change Order; and it is expressly understood and agreed that the approval of this Change Order shall have no effect on the original Agreement other than matters expressly provided herein.

RECOMMENDED BY:

By: _____
Signature

Date: _____

ACCEPTED BY:

Contractor: _____

By: _____
Signature

Name: _____

Date: _____

APPROVED BY: City of Ft. Pierce

Date: _____

By: _____
Signature & Title

END OF CHANGE ORDER



CERTIFICATE OF OWNER'S ATTORNEY

PROJECT: _____

I, the undersigned, _____
(Name of Attorney)

the duly authorized and acting legal representative of _____
_____, do hereby certify as follows:
(Owner)

I have examined the attached contract(s) and surety bonds and the manner of execution thereof, and I am of the opinion that each of the aforesaid agreements has been duly executed by the proper parties thereto acting through their duly authorized representatives; that said representatives have full power and authority to execute said agreements on behalf of the respective parties named thereon; and that the foregoing agreements constitute valid and legally binding obligations upon the parties executing the same in accordance with terms, conditions, and provisions thereof.

Attorney

Date

END OF SECTION



NON-COLLUSION AFFIDAVIT

STATE OF FLORIDA

COUNTY OF ST. LUCIE

MARK ROCK, being first duly sworn, deposes and says:

That he/she is CHIEF FINANCIAL OFFICER
(a partner or officer of the firm of, etc.)

the party making the foregoing proposal or bid, that such proposal or bid is genuine and not collusive or sham; that said bidder has not colluded, conspired, connived or agreed directly or indirectly with any bidder or person, to put in a sham bid or to refrain from bidding, and has not in any manner, directly or indirectly sought by agreement or collusion, or communication or conference with any person, to fix the bid price of affiant or of any other bidder, or to fix any overhead, profit or cost element of said bid price, or of that of any other bidder, or to secure any advantage against the City of Fort Pierce, of the County of St. Lucie, or any person interested in the proposed contract; and that all statements in said proposal or bid are true.

REMNANT CONSTRUCTION
(Firm Name)

By: [Signature]

Title: CFO

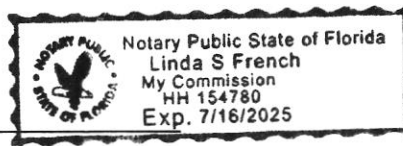
Subscribed and sworn to before me this 29th

day of February, 2024, ~~2023~~

[Signature]
Notary Public

My Commission expires: (Seal)

July 16, 2025



END OF SECTION



PUBLIC ENTITY AFFIDAVIT

SWORN STATEMENT UNDER SECTION 287.133(3)(a),
FLORIDA STATUTES, ON PUBLIC ENTITY CRIMES

THIS FORM MUST BE SIGNED IN THE PRESENCE OF A NOTARY PUBLIC OR OTHER OFFICER AUTHORIZED TO ADMINISTER OATHS.

1. This sworn statement is submitted with Bid No. 2024-004 for _____
THE CITY OF FORT PIERCE PURCHASING DIVISION

2. This sworn statement is submitted by REMNANT CONSTRUCTION, LLC
(name of entity submitting sworn statement)

whose business address is 201 S. 2ND STREET #100
FORT PIERCE, FL 34950 and

(if applicable) its Federal Employer Identification Number (FEIN) is 82-3438825

_____ (If the entity has no FEIN, include the Social Security Number of the individual signing this sworn statement: _____.)

3. My name is ERIN O'BRIEN my relationship to the entity
(please print name of individual signing)

named above is DIRECTOR OF OPERATIONS

4. I understand that a "public entity crime" as defined in Paragraph 287.133(1)(g), Florida Statutes, means a violation of any state or federal law by a person with respect to and directly related to the transaction of business with any public entity or with an agency or political subdivision of any other state or with the United States, including, but not limited to, any bid or contract for goods or services to be provided to any public entity or an agency or political subdivision of any other state or of the United States and involving antitrust, fraud, theft, bribery, collusion, racketeering, conspiracy, or material misrepresentation.

5. I understand that "convicted" or "conviction" as defined in Paragraph 287.133(1)(b), Florida Statutes, means a finding of guilt or a conviction of a public entity crime, with or without an adjudication of guilt, in any federal or state trial court of record relating to charges brought by indictment or information after July 1, 1989, as a result of a jury verdict, nonjury trial, or entry of a plea of guilty or nolo contendere.

6. I understand that an "affiliate" as defined in paragraph 287.133(1)(a), Florida Statutes, means:
1. A predecessor or successor of a person convicted of a public entity crime: or
2. An entity under the control of any natural person who is active in the management of the entity and who has been convicted of a public entity crime. The term "affiliate" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in the management of an affiliate. The ownership by one person of shares constituting a controlling interest in another person, or a pooling of equipment or income among persons when not for fair market value under an arm's length agreement,

shall be a prima facie case that one person controls another person. A person who knowingly enters into a joint venture with a person who has been convicted of a public entity crime in Florida during the preceding 36 months shall be considered an affiliate.

7. I understand that a "person" as defined in Paragraph 287.133(1)(e), Florida Statutes, means any natural person or entity organized under the laws of any state or of the United States with the legal power to enter into a binding contract and which bids or applies to bid on contracts for the provision of goods or services let by a public entity, or which otherwise transacts or applies to transact business with a public entity. The term "person" includes those officers, directors, executives, partners, shareholders, employees, members, and agents who are active in management of an entity.

8. Based on information and belief, the statement which I have marked below is true in relation to the entity submitting this sworn statement.

(Please indicate which statement applies.)


_____ Neither the entity submitting this sworn statement, nor any officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, nor any affiliate of the entity have been charged with and convicted of a public entity crime subsequent to July 1, 1989.

_____ The entity submitting this sworn statement, or one or more of the officers, directors, executives, partners, shareholders, employees, members, or agents who are active in management of the entity, or an affiliate of the entity has been charged with and convicted of a public entity crime subsequent to July 1, 1989, AND **(Please indicate which additional statement applies.)**

_____ There has been a proceeding concerning the conviction before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer did not place the person or affiliate on the convicted vendor list. **(Please attach a copy of the final order.)**

_____ The person or affiliate was placed on the convicted vendor list. There has been a subsequent proceeding before a hearing officer of the State of Florida, Division of Administrative Hearings. The final order entered by the hearing officer determined that it was in the public interest to remove the person or affiliate from the convicted vendor list. **(Please attach a copy of the final order.)**

_____ The person or affiliate has not been placed on the convicted vendor list. **(Please describe any action taken by or pending with the Department of General Services.)**

Signature: 

Date: 2/29/24

STATE OF Florida

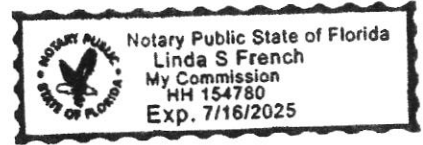
COUNTY OF St. Lucie

PERSONALLY APPEARED BEFORE ME, the undersigned authority,

ERIN O'BRIEN who, after first being sworn by me, affixed his/her signature in (name of individual signing) the space provided above on this 29th day of February, ~~2023~~ 2024

NOTARY PUBLIC SEAL: Linda S French

My commission expires: July 16, 2025



END OF SECTION




CERTIFICATION OF NON-SEGREGATED FACILITIES

certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control where segregated facilities are maintained. The Bidder certifies further that he will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location under his control where segregated facilities are maintained. The Bidder agrees that a breach of this certification will be a violation of the Equal Opportunity clause in any contract resulting from acceptance of this Bid. As used in this certification, the term "segregated facilities" means any waiting rooms, work areas, restrooms and washrooms, restaurants, and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated on the basis of race, color, religion, or national origin, because of habit, local custom, or otherwise. The Bidder agrees that (except where he has obtained identical certification from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors, exempt from the provisions of the Equal Opportunity clause, and that he will retain such certification in his files.

NOTE: The penalty for making false statements in offers is prescribed in 18 U.S.C. 1001.

DATE: February 29, 2024

Official Address
(Including Zip Code):
201 S 2nd St., Ste 100,
Fort Pierce, FL 34950

By: Erin O'Brien 
Director of Operations
(Title)

END OF SECTION



TRENCH SAFETY ACT COMPLIANCE STATEMENT

Bid No. 2024-004

Instructions:

Chapter 90-96 of the Laws of Florida requires all contractors engaged by the City of Fort Pierce to comply with Occupational Safety and Health Administration Standard 29 C.F.R. s. 1926.650 Subpart P. All prospective contractors are required to sign the compliance statement and provide compliance cost information where indicated below. The costs for complying with the Trench Safety Act must be incorporated into this project's base bid.

Certify this form in the presence of a notary public or other officer authorized to administer oaths.

Certification:

1. I understand that Chapter 90-96 of the Laws of Florida (The Trench Safety Act) requires me to comply with OSHA Standard 29 C.F.R. s. 1926.650 Subpart P. I will comply with The Trench Safety Act and I will design and provide trench safety systems at all trench excavations in excess of five feet in depth for this project.

2. The estimated cost imposed by compliance with The Trench Safety Act will be:

Zero _____ Dollars
(Written) \$0.00

(Figures)

3. The amount listed above has been included within the Base Bid.

Certified: Remnant Construction, LLC
(Company Contractor)

By: Mark Bock *MBock*
(President's Signature)

MARK BOCK
(President's Typed or Printed Name)

Notarization:

Sworn to and subscribed before me in _____ County, Florida on the _____ day of _____, 2024.

Notary Public: _____ (affix seal) My Commission Expires: _____

END OF SECTION



E-VERIFY
FORT PIERCE, FLORIDA

**PROJECT: GENERAL CONTRACTOR SERVICES – FLOODPROOFING A
NON-RESIDENTIAL STRUCTURE**


Bid No.: 2024-004

Project Description: General Contractor Services to provide all labor, materials and equipment to floodproof a non-residential structure.

Vendor/Consultant acknowledges and agrees to the following:

1. Vendor/Consultant shall utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the Vendor/Consultant during the term of the contract; and
2. shall expressly require any subcontractors performing work or providing services pursuant to this contract to likewise utilize the U.S. Department of Homeland Security's E-Verify system to verify the employment eligibility of all new employees hired by the subcontractor during the contract term.

Company/Firm: Remnant Construction, LLC

Authorized Signature: 

Title: Director of Operarions

Date: 2/29/2024

END OF SECTION



CITY OF FORT PIERCE
AFFIDAVIT REGARDING THE USE COERCION FOR
LABOR OR SERVICES

Vendor name: Remnant Construction, LLC
Authorized Representative's Name and Title: Brandon Nobile CEO
Address: 201 S 2nd St, suite 100
City: Fort Pierce State: FL Zip Code: 34950
Phone Number: 772-577-5850 Email Address: bnobile@remnantconstruction.com

Section 787.06(13), Florida Statutes, requires all nongovernmental entities executing, renewing, or extending a contract with a governmental entity to provide an affidavit signed by an officer or representative of the nongovernmental entity under penalty of perjury that the nongovernmental entity does not use coercion for labor or services as defined in that statute. As the person authorized to sign on behalf of Vendor, I certify that the company identified does not:

1. Use or threaten to use physical force against any person;
2. Restrain, isolate, or confine or threaten to restrain, isolate, or confine any person without lawful authority and against her or his will;
3. Use lending or other credit methods to establish a debt by any person when labor or services are pledged as a security for the debt, if the value of the labor or services as reasonably assessed is not applied toward the liquidation of the debt, the length and nature of the labor or services are not respectively limited and defined;
4. Destroy, conceal, remove, confiscate, withhold, or possess any actual or purported passport, visa, or other immigration document, or any other actual or purported government identification document, of any person;
5. Cause or threaten to cause financial harm to any person;
6. Entice or lure any person by fraud or deceit; or
7. Provide a controlled substance as outlined in Schedule I or Schedule II of section 893.03, Florida Statutes, to any person for the purpose of exploitation of that person.

Under penalties of perjury, I declare that I have read the foregoing document and that the facts stated in it are true.

By: [Signature] Brandon Nobile CEO 12-6-24
Authorized Signature Printed Name and Title Date

PAGE 2 OF 2

STATE OF FLORIDA
COUNTY OF St. Lucie

Sworn (or affirmed) and subscribed before me by means of physical presence or online notarization

this 6th day of December, 2024 by Brandon Nobile, who is

personally known or

produced identification (ID produced: _____).

Notary Public Signature: J Knowles (Seal)

Print Name: Jennifer Knowles My Commission Expire 1/13/29



JENNIFER KNOWLES
Notary Public
State of Florida
Comm# HH593923
Expires 1/13/2029

**CONTRACTOR TO REFER TO THE TECHNICAL SPECIFICATIONS
CONTAINED IN THIS EXHIBIT AS WELL AS THE BUILDING
CONSTRUCTION PLANS**

SECTION 010000 - GENERAL REQUIREMENTS

PART 1 - GENERAL (Not Used)

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION

SECTION 011000 - SUMMARY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

1. Project information.
2. Work covered by Contract Documents.
3. Future work not part of this Project.
4. Contractor's use of site and premises.
5. Coordination with occupants.
6. Work restrictions.
7. Specification and Drawing conventions.
8. Miscellaneous provisions.

- B. Related Requirements:

1. Section 015000 "Temporary Facilities and Controls" for limitations and procedures governing temporary use of Owner's facilities.
2. Section 017300 "Execution" for coordination of Owner-installed products.

1.3 DEFINITIONS

- C. Work Package: A group of specifications, drawings, and schedules prepared by the design team to describe a portion of the Project Work for pricing, permitting, and construction.

1.4 PROJECT INFORMATION

- A. Project Identification: Little Jim's Bait & Tackle FEMA Flood Mitigation

1. Project Location: 106 North Causeway Drive, Fort Pierce, FL

- B. Owner: City of Fort Pierce, 100 North U.S. Highway 1, Fort Pierce, FL 34950
 - 1. Owner's Representative: Nick Mimms, City Manager
- C. Architect: Don Bergman Architecture LLC, 4362 Gator Trace Lane, Ft. Pierce, FL 34982
 - 1. Architect's Representative: Don Bergman, AIA CA
- D. Contractor: To be determined

1.5 WORK COVERED BY CONTRACT DOCUMENTS

- A. The Work of Project is defined by the Contract Documents and includes, but is not limited to, the following:
 - 1. The existing wood frame Little Jim's Bait & Tackle building is located along the northeast waterfront of a 1.89 Ac parcel owned by the City of Fort Pierce and includes an interior retail business, a small Office, and Kitchen Prep for the on-site mobile food businesses. The Project includes the removal and replacement of portions of the existing wood frame structure per the FEMA requirements for protecting and mitigating an existing structure in a FEMA flood zone, installation of a propane emergency generator & support structure, installation of a new rooftop mounted HVAC unit and other Work indicated in the Contract Documents.
- B. Type of Contract:
 - 1. Project will be constructed under a single prime contract.

1.6 CONTRACTOR'S USE OF SITE AND PREMISES

- A. Restricted Use of Site: Contractor shall have limited use of Project site for construction operations as indicated on Drawings by the Contract limits and as indicated by requirements of this Section.
- B. Limits on Use of Site: Limit use of Project site to areas within the Contract limits indicated. Do not disturb portions of Project site beyond areas in which the Work is indicated.
 - 1. Limits on Use of Site: Confine construction operations to areas immediately adjacent to the existing wood frame building.
 - 2. Driveways, Walkways and Entrances: Keep driveways, loading areas, and entrances serving premises clear and available to Owner, Owner's employees, and emergency vehicles at all times. Do not use these areas for parking or for storage of materials.

Schedule deliveries to minimize use of driveways and entrances by construction operations

- a. Schedule deliveries to minimize space and time requirements for storage of materials and equipment on-site.

- E. Condition of Existing Building: Maintain portions of existing building affected by construction operations in a weathertight condition throughout construction period. Repair damage caused by construction operations.
- F. Condition of Existing Grounds: Maintain portions of existing grounds, landscaping, and hardscaping affected by construction operations throughout construction period. Repair damage caused by construction operations.

1.7 COORDINATION WITH OCCUPANTS

A. Partial Owner Occupancy: Owner will occupy the premises during entire construction period, with the exception of areas under construction. Cooperate with Owner during construction operations to minimize conflicts and facilitate Owner usage. Perform the Work so as not to interfere with Owner's operations. Maintain existing exits unless otherwise indicated.

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

1.8 WORK RESTRICTIONS

- A. Comply with restrictions on construction operations.
 1. Comply with limitations on use of public streets, work on public streets, rights of way, and other requirements of authorities having jurisdiction.
- B. On-Site Work Hours: Limit work to between 8:00 a.m. to 5:00 p.m., Monday through Friday, unless otherwise indicated. Work hours may be modified to meet Project requirements if approved by Owner and authorities having jurisdiction. Coordinate with the local building tenant.
- C. Existing Utility Interruptions: Do not interrupt utilities serving facilities occupied by Owner or others unless permitted under the following conditions and then only after arranging for temporary utility services according to requirements indicated:

1. Notify Owner & tenant not less than two days in advance of proposed utility interruptions.
- D. Noise, Vibration, Dust, and Odors: Coordinate operations that may result in high levels of noise and vibration, dust, odors, or other disruption to Owner occupancy with Owner.
1. Notify Owner not less than two days in advance of proposed disruptive operations.
- E. Smoking and Controlled Substance Restrictions: Use of tobacco products, alcoholic beverages, and other controlled substances on Project site is not permitted.
- 1.9 SPECIFICATION AND DRAWING CONVENTIONS
- A. Specification Content: The Specifications use certain conventions for the style of language and the intended meaning of certain terms, words, and phrases when used in particular situations. These conventions are as follows:
1. Imperative mood and streamlined language are generally used in the Specifications. The words "shall," "shall be," or "shall comply with," depending on the context, are implied where a colon (:) is used within a sentence or phrase.
 2. Specification requirements are to be performed by Contractor unless specifically stated otherwise.
- B. Division 00 Contracting Requirements: General provisions of the Contract, including General and Supplementary Conditions, apply to all Sections of the Specifications.
- C. Division 01 General Requirements: Requirements of Sections in Division 01 apply to the Work of all Sections in the Specifications.
- D. Drawing Coordination: Requirements for materials and products identified on Drawings are described in detail in the Specifications. One or more of the following are used on Drawings to identify materials and products:
1. Terminology: Materials and products are identified by the typical generic terms used in the individual Specifications Sections.
 2. Abbreviations: Materials and products are identified by abbreviations scheduled on Drawings and published as part of the U.S. National CAD Standard.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 011000

SECTION 012500 - SUBSTITUTION PROCEDURES

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- H. Section includes administrative and procedural requirements for substitutions.

- I. Related Requirements:

- 1. Document 002600 "Procurement Substitution Procedures" for requirements for substitution requests prior to award of Contract.
- 2. Section 016000 "Product Requirements" for requirements for submitting comparable product submittals for products by listed manufacturers.

1.3 DEFINITIONS

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

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

1.4 ACTION SUBMITTALS

- 3. Substitution Request Form: Use form acceptable to Architect.
- 4. Documentation: Show compliance with requirements for substitutions and the following, as applicable:
 - a. Statement indicating why specified product or fabrication or installation method cannot be provided, if applicable.
 - b. Coordination of information, including a list of changes or revisions needed to other parts of the Work and to construction performed by Owner and separate contractors that will be necessary to accommodate proposed substitution.

- c. Detailed comparison of significant qualities of proposed substitutions with those of the Work specified. Include annotated copy of applicable Specification Section. Significant qualities may include attributes, such as performance, weight, size, durability, visual effect, sustainable design characteristics, warranties, and specific features and requirements indicated. Indicate deviations, if any, from the Work specified.
 - d. Product Data, including drawings and descriptions of products and fabrication and installation procedures.
 - e. Samples, where applicable or requested.
 - f. Certificates and qualification data, where applicable or requested.
 - g. List of similar installations for completed projects, with project names and addresses as well as names and addresses of architects and owners.
 - h. Material test reports from a qualified testing agency, indicating and interpreting test results for compliance with requirements indicated.
 - i. Research reports evidencing compliance with building code in effect for Project, from ICC-ES.
 - j. Detailed comparison of Contractor's construction schedule using proposed substitutions with products specified for the Work, including effect on the overall Contract Time. If specified product or method of construction cannot be provided within the Contract Time, include letter from manufacturer, on manufacturer's letterhead, stating date of receipt of purchase order, lack of availability, or delays in delivery.
 - k. Cost information, including a proposal of change, if any, in the Contract Sum.
 - l. Contractor's certification that proposed substitution complies with requirements in the Contract Documents, except as indicated in substitution request, is compatible with related materials and is appropriate for applications indicated.
 - m. Contractor's waiver of rights to additional payment or time that may subsequently become necessary because of failure of proposed substitution to produce indicated results.
5. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within seven days of receipt of a request for substitution. Architect will notify Contractor of acceptance or rejection of proposed substitution within 15 days of receipt of request, or seven days of receipt of additional information or documentation, whichever is later.
- a. Forms of Acceptance: Change Order, Construction Change Directive, or Architect's Supplemental Instructions for minor changes in the Work.
 - b. Use product specified if Architect does not issue a decision on use of a proposed substitution within time allocated.

1.5 QUALITY ASSURANCE

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

3.2 PROCEDURES

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

3.3 SUBSTITUTIONS

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

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

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

- B. Substitutions for Convenience: Architect will consider requests for substitution if received within 60 days after the Notice to Proceed. Requests received after that time may be considered or rejected at discretion of Architect.

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

- a. Requested substitution offers Owner a substantial advantage in cost, time, energy conservation, or other considerations, after deducting additional responsibilities Owner must assume. Owner's additional responsibilities may include compensation to Architect for redesign and evaluation services, increased cost of other construction by Owner, and similar considerations.
- b. Requested substitution does not require extensive revisions to the Contract Documents.
- c. Requested substitution is consistent with the Contract Documents and will produce indicated results.
- d. Substitution request is fully documented and properly submitted.
- e. Requested substitution will not adversely affect Contractor's construction schedule.
- f. Requested substitution has received necessary approvals of authorities having jurisdiction.
- g. Requested substitution is compatible with other portions of the Work.
- h. Requested substitution has been coordinated with other portions of the Work.
- i. Requested substitution provides specified warranty.
- j. If requested substitution involves more than one contractor, requested substitution has been coordinated with other portions of the Work, is uniform and consistent, is compatible with other products, and is acceptable to all contractors involved.

PART 4 - PRODUCTS (Not Used)

PART 5 - EXECUTION (Not Used)

END OF SECTION 012500

SECTION 012600 - CONTRACT MODIFICATION PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for handling and processing Contract modifications.
- B. Related Requirements:
 - 1. Section 012500 "Substitution Procedures" for administrative procedures for handling requests for substitutions made after the Contract award.

1.3 MINOR CHANGES IN THE WORK

- A. Architect will issue supplemental instructions authorizing minor changes in the Work, not involving adjustment to the Contract Sum or the Contract Time, on AIA Document G710,

1.4 PROPOSAL REQUESTS

- A. Owner-Initiated Proposal Requests: Architect will issue a detailed description of proposed changes in the Work that may require adjustment to the Contract Sum or the Contract Time. If necessary, the description will include supplemental or revised Drawings and Specifications.
 - 1. Work Change Proposal Requests issued by Architect are not instructions either to stop work in progress or to execute the proposed change.
 - 2. Within time specified in Proposal Request or 20 days, when not otherwise specified, after receipt of Proposal Request, submit a quotation estimating cost adjustments to the Contract Sum and the Contract Time necessary to execute the change.
 - a. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.

- b. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 - c. Include costs of labor and supervision directly attributable to the change.
 - d. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 - e. Quotation Form: Use forms acceptable to Architect.
- B. Contractor-Initiated Proposals: If latent or changed conditions require modifications to the Contract, Contractor may initiate a claim by submitting a request for a change to Architect.
1. Include a statement outlining reasons for the change and the effect of the change on the Work. Provide a complete description of the proposed change. Indicate the effect of the proposed change on the Contract Sum and the Contract Time.
 2. Include a list of quantities of products required or eliminated and unit costs, with total amount of purchases and credits to be made. If requested, furnish survey data to substantiate quantities.
 3. Indicate applicable taxes, delivery charges, equipment rental, and amounts of trade discounts.
 4. Include costs of labor and supervision directly attributable to the change.
 5. Include an updated Contractor's construction schedule that indicates the effect of the change, including, but not limited to, changes in activity duration, start and finish times, and activity relationship. Use available total float before requesting an extension of the Contract Time.
 6. Comply with requirements in Section 012500 "Substitution Procedures" if the proposed change requires substitution of one product or system for product or system specified.
 7. Proposal Request Form: Use form acceptable to Architect.
- 1.5 ADMINISTRATIVE CHANGE ORDERS
- A. Allowance Adjustment: See Section 012100 "Allowances" for administrative procedures for preparation of Change Order Proposal for adjusting the Contract Sum to reflect actual costs of allowances.

1.6 CHANGE ORDER PROCEDURES

- A. On Owner's approval of a Work Change Proposal Request, Architect will issue a Change Order for signatures of Owner and Contractor on AIA Document G701.

1.7 CONSTRUCTION CHANGE DIRECTIVE

- A. Construction Change Directive: Architect may issue a Construction Change Directive on AIA Document G714. Construction Change Directive instructs Contractor to proceed with a change in the Work, for subsequent inclusion in a Change Order.

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

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

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

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012600

SECTION 012900 - PAYMENT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements necessary to prepare and process Applications for Payment.
- B. Related Requirements:
 - 1. Document 004373 "Proposed Schedule of Values Form" for requirements for furnishing proposed schedule of values with bid.
 - 2. Section 012100 "Allowances" for procedural requirements governing the handling and processing of allowances.
 - 3. Section 012600 "Contract Modification Procedures" for administrative procedures for handling changes to the Contract.
 - 4. Section 013200 "Construction Progress Documentation" for administrative requirements governing the preparation and submittal of the Contractor's construction schedule.

1.3 DEFINITIONS

- A. Schedule of Values: A statement furnished by Contractor allocating portions of the Contract Sum to various portions of the Work and used as the basis for reviewing Contractor's Applications for Payment.

1.4 SCHEDULE OF VALUES

- A. Coordination: Coordinate preparation of the schedule of values with preparation of Contractor's construction schedule.
 - 1. Coordinate line items in the schedule of values with items required to be indicated as separate activities in Contractor's construction schedule.
 - 2. Submit the schedule of values to Architect at earliest possible date, but no later than seven days before the date scheduled for submittal of initial Applications for Payment.
- B. Format and Content: Use Project Manual table of contents as a guide to establish line items for the schedule of values. Provide at least one line item for each Specification Section.

1. Identification: Include the following Project identification on the schedule of values:
 - a. Project name and location.
 - b. Owner's name.
 - c. Owner's Project number.
 - d. Name of Architect.
 - e. Architect's Project number.
 - f. Contractor's name and address.
 - g. Date of submittal.
2. Arrange schedule of values consistent with format of AIA Document G703.
3. Arrange the schedule of values in tabular form, with separate columns to indicate the following for each item listed:
 - a. Related Specification Section or division.
 - b. Description of the Work.
 - c. Name of subcontractor.
 - d. Name of manufacturer or fabricator.
 - e. Name of supplier.
 - f. Change Orders (numbers) that affect value.
 - g. Dollar value of the following, as a percentage of the Contract Sum to nearest one-hundredth percent, adjusted to total 100 percent. Round dollar amounts to whole dollars, with total equal to Contract Sum.
 - 1) Labor.
 - 2) Materials.
 - 3) Equipment.
4. Provide a breakdown of the Contract Sum in enough detail to facilitate continued evaluation of Applications for Payment and progress reports. Provide multiple line items for principal subcontract amounts in excess of five percent of the Contract Sum.
5. Provide a separate line item in the schedule of values for each part of the Work where Applications for Payment may include materials or equipment purchased or fabricated and stored, but not yet installed.
 - a. Differentiate between items stored on-site and items stored off-site.
6. Purchase Contracts: Provide a separate line item in the schedule of values for each Purchase contract. Show line-item value of Purchase contract. Indicate Owner payments or deposits, if any, and balance to be paid by Contractor.
7. Overhead Costs, Separate Line Items: Show cost of temporary facilities and other major cost items that are not direct cost of actual work-in-place as separate line items.
8. Closeout Costs. Include separate line items under Contractor and principal subcontracts for Project closeout requirements in an amount totaling five percent of the Contract Sum and subcontract amount.
9. Schedule of Values Revisions: Revise the schedule of values when Change Orders or Construction Change Directives result in a change in the Contract Sum. Include at least one separate line item for each Change Order and Construction Change Directive.

1.5 APPLICATIONS FOR PAYMENT

- A. Each Application for Payment following the initial Application for Payment shall be consistent with previous applications and payments, as certified by Architect and paid for by Owner.
- B. Payment Application Times: Submit Application for Payment to Architect by the 7TH day of the month. The period covered by each Application for Payment is one month, ending on the last day of the month.
 - 1. Submit draft copy of Application for Payment seven days prior to due date for review by Architect.
- C. Application for Payment Forms: Use AIA Document G702 and AIA Document G703 as form for Applications for Payment.
 - 1. Other Application for Payment forms proposed by the Contractor may be acceptable to Architect and Owner. Submit forms for approval with initial submittal of schedule of values.
- D. Application Preparation: Complete every entry on form. Notarize and execute by a person authorized to sign legal documents on behalf of Contractor. Architect will return incomplete applications without action.
 - 1. Entries shall match data on the schedule of values and Contractor's construction schedule. Use updated schedules if revisions were made.
 - 2. Include amounts for work completed following previous Application for Payment, whether or not payment has been received. Include only amounts for work completed at time of Application for Payment.
 - 3. Include amounts of Change Orders and Construction Change Directives issued before last day of construction period covered by application.
 - 4. Indicate separate amounts for work being carried out under Owner-requested project acceleration.
- E. Stored Materials: Include in Application for Payment amounts applied for materials or equipment purchased or fabricated and stored, but not yet installed. Differentiate between items stored on-site and items stored off-site.
 - 1. Provide certificate of insurance, evidence of transfer of title to Owner, and consent of surety to payment for stored materials.
 - 2. Provide supporting documentation that verifies amount requested, such as paid invoices. Match amount requested with amounts indicated on documentation; do not include overhead and profit on stored materials.
 - 3. Provide summary documentation for stored materials indicating the following:
 - a. Value of materials previously stored and remaining stored as of date of previous Applications for Payment.
 - b. Value of previously stored materials put in place after date of previous Application for Payment and on or before date of current Application for Payment.
 - c. Value of materials stored since date of previous Application for Payment and remaining stored as of date of current Application for Payment.

- F. Transmittal: Submit three signed and notarized original copies of each Application for Payment to Architect by a method ensuring receipt within 24 hours. One copy shall include waivers of lien and similar attachments if required.
1. Transmit each copy with a transmittal form listing attachments and recording appropriate information about application.
- G. Waivers of Mechanic's Lien: With each Application for Payment, submit waivers of mechanic's lien from subcontractors, sub-subcontractors, and suppliers for construction period covered by the previous application.
1. Submit partial waivers on each item for amount requested in previous application, after deduction for retainage, on each item.
 2. When an application shows completion of an item, submit conditional final or full waivers.
 3. Owner reserves the right to designate which entities involved in the Work must submit waivers.
 4. Submit final Application for Payment with or preceded by conditional final waivers from every entity involved with performance of the Work covered by the application who is lawfully entitled to a lien.
 5. Waiver Forms: Submit executed waivers of lien on forms acceptable to Owner.
- H. Initial Application for Payment: Administrative actions and submittals that must precede or coincide with submittal of first Application for Payment include the following:
1. List of subcontractors.
 2. Schedule of values.
 3. Contractor's construction schedule (preliminary if not final).
 4. Combined Contractor's construction schedule (preliminary if not final) incorporating Work of multiple contracts, with indication of acceptance of schedule by each Contractor.
 5. Products list (preliminary if not final).
 6. Schedule of unit prices.
 7. Submittal schedule (preliminary if not final).
 8. List of Contractor's staff assignments.
 9. List of Contractor's principal consultants.
 10. Copies of building permits.
 11. Copies of authorizations and licenses from authorities having jurisdiction for performance of the Work.
 12. Initial progress report.
 13. Report of preconstruction conference.
 14. Certificates of insurance and insurance policies.
 15. Performance and payment bonds.
 16. Data needed to acquire Owner's insurance.
- I. Application for Payment at Substantial Completion: After Architect issues the Certificate of Substantial Completion, submit an Application for Payment showing 100 percent completion for portion of the Work claimed as substantially complete.
1. Include documentation supporting claim that the Work is substantially complete and a statement showing an accounting of changes to the Contract Sum.

EXHIBIT "D"
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- a. Complete administrative actions, submittals, and Work preceding this application, as described in Section 017700 "Closeout Procedures."
 2. This application shall reflect Certificate(s) of Substantial Completion issued previously for Owner occupancy of designated portions of the Work.
- J. Final Payment Application: After completing Project closeout requirements, submit final Application for Payment with releases and supporting documentation not previously submitted and accepted, including, but not limited, to the following:
1. Evidence of completion of Project closeout requirements.
 2. Certification of completion of final punch list items.
 3. Insurance certificates for products and completed operations where required and proof that taxes, fees, and similar obligations were paid.
 4. Updated final statement, accounting for final changes to the Contract Sum.
 5. AIA Document G706.
 6. AIA Document G706A.
 7. AIA Document G707.
 8. Evidence that claims have been settled.
 9. Final meter readings for utilities, a measured record of stored fuel, and similar data as of date of Substantial Completion or when Owner took possession of and assumed responsibility for corresponding elements of the Work.
 10. Final liquidated damages settlement statement.
 11. Proof that taxes, fees, and similar obligations are paid.
 12. Waivers and releases.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 012900

SECTION 013300 - SUBMITTAL PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Submittal schedule requirements.
- 2. Administrative and procedural requirements for submittals.

- B. Related Requirements:

- 1. Section 012900 "Payment Procedures" for submitting Applications for Payment and the schedule of values.
- 2. Section 013200 "Construction Progress Documentation" for submitting schedules and reports, including Contractor's construction schedule.
- 3. Section 014000 "Quality Requirements" for submitting test and inspection reports, and schedule of tests and inspections.
- 4. Section 017700 "Closeout Procedures" for submitting closeout submittals and maintenance material submittals.
- 5. Section 017823 "Operation and Maintenance Data" for submitting operation and maintenance manuals.
- 6. Section 017900 "Demonstration and Training" for submitting video recordings of demonstration of equipment and training of Owner's personnel.

1.3 DEFINITIONS

- A. Action Submittals: Written and graphic information and physical samples that require Architect's responsive action. Action submittals are those submittals indicated in individual Specification Sections as "action submittals."
- B. Informational Submittals: Written and graphic information and physical samples that do not require Architect's responsive action. Submittals may be rejected for not complying with requirements. Informational submittals are those submittals indicated in individual Specification Sections as "informational submittals."

1.4 SUBMITTAL SCHEDULE

- A. Submittal Schedule: Submit, as an action submittal, a list of submittals, arranged in chronological order by dates required by construction schedule. Include time required for review, ordering, manufacturing, fabrication, and delivery when establishing dates. Include additional time required for making corrections or revisions to submittals noted by Architect and additional time for handling and reviewing submittals required by those corrections.
1. Coordinate submittal schedule with list of subcontracts, the schedule of values, and Contractor's construction schedule.
 2. Initial Submittal Schedule: Submit concurrently with startup construction schedule. Include submittals required during the first 60 days of construction. List those submittals required to maintain orderly progress of the Work and those required early because of long lead time for manufacture or fabrication.
 3. Final Submittal Schedule: Submit concurrently with the first complete submittal of Contractor's construction schedule.
 - a. Submit revised submittal schedule as required to reflect changes in current status and timing for submittals.
 4. Format: Arrange the following information in a tabular format:
 - a. Scheduled date for first submittal.
 - b. Specification Section number and title.
 - c. Submittal Category: Action; informational.
 - d. Name of subcontractor.
 - e. Description of the Work covered.
 - f. Scheduled date for Architect's final release or approval.
 - g. Scheduled dates for purchasing.
 - h. Scheduled date of fabrication.
 - i. Scheduled dates for installation.
 - j. Activity or event number.

1.5 SUBMITTAL FORMATS

- A. Submittal Information: Include the following information in each submittal:
1. Project name.
 2. Date.
 3. Name of Architect.
 4. Name of Contractor.
 5. Name of firm or entity that prepared submittal.
 6. Names of subcontractor, manufacturer, and supplier.
 7. Unique submittal number, including revision identifier. Include Specification Section number with sequential alphanumeric identifier and alphanumeric suffix for resubmittals.
 8. Category and type of submittal.
 9. Submittal purpose and description.

10. Number and title of Specification Section, with paragraph number and generic name for each of multiple items.
11. Drawing number and detail references, as appropriate.
12. Indication of full or partial submittal.
13. Location(s) where product is to be installed, as appropriate.
14. Other necessary identification.
15. Remarks.
16. Signature of transmitter.

B. Options: Identify options requiring selection by Architect.

C. Deviations and Additional Information: On each submittal, clearly indicate deviations from requirements in the Contract Documents, including minor variations and limitations; include relevant additional information and revisions, other than those requested by Architect on previous submittals. Indicate by highlighting on each submittal or noting on attached separate sheet.

D. Paper Submittals:

1. Place a permanent label or title block on each submittal item for identification; include name of firm or entity that prepared submittal.
2. Provide a space approximately 6 by 8 inches on label or beside title block to record Contractor's review and approval markings and action taken by Architect.
3. Action Submittals: Submit three paper copies of each submittal unless otherwise indicated. Architect will return two copies.
4. Informational Submittals: Submit two paper copies of each submittal unless otherwise indicated. Architect will not return copies.
5. Additional Copies: Unless additional copies are required for final submittal, and unless Architect observes noncompliance with provisions in the Contract Documents, initial submittal may serve as final submittal.
6. Transmittal for Submittals: Assemble each submittal individually and appropriately for transmittal and handling. Transmit each submittal using AIA Document G810 transmittal form.

E. Electronic Submittals: Prepare submittals as PDF package, incorporating complete information into each PDF file. Name PDF file with submittal number.

1.6 SUBMITTAL PROCEDURES

A. Prepare and submit submittals required by individual Specification Sections. Types of submittals are indicated in individual Specification Sections.

1. Email: Prepare submittals as PDF package and transmit to Architect by sending via email. Include PDF transmittal form. Include information in email subject line as requested by Architect.
 - a. Architect will return annotated file. Annotate and retain one copy of file as a digital Project Record Document file.
2. Paper: Prepare submittals in paper form and deliver to Architect.

- B. Coordination: Coordinate preparation and processing of submittals with performance of construction activities.
1. Coordinate each submittal with fabrication, purchasing, testing, delivery, other submittals, and related activities that require sequential activity.
 2. Submit all submittal items required for each Specification Section concurrently unless partial submittals for portions of the Work are indicated on approved submittal schedule.
 3. Submit action submittals and informational submittals required by the same Specification Section as separate packages under separate transmittals.
 4. Coordinate transmittal of submittals for related parts of the Work specified in different Sections, so processing will not be delayed because of need to review submittals concurrently for coordination.
 - a. Architect reserves the right to withhold action on a submittal requiring coordination with other submittals until related submittals are received.
- C. Processing Time: Allow time for submittal review, including time for resubmittals, as follows. Time for review shall commence on Architect's receipt of submittal. No extension of the Contract Time will be authorized because of failure to transmit submittals enough in advance of the Work to permit processing, including resubmittals.
1. Initial Review: Allow 15 days for initial review of each submittal. Allow additional time if coordination with subsequent submittals is required. Architect will advise Contractor when a submittal being processed must be delayed for coordination.
 2. Intermediate Review: If intermediate submittal is necessary, process it in same manner as initial submittal.
 3. Resubmittal Review: Allow 15 days for review of each resubmittal.
 4. Sequential Review: Where sequential review of submittals by Architect's consultants, Owner, or other parties is indicated, allow 21 days for initial review of each submittal.
- D. Resubmittals: Make resubmittals in same form and number of copies as initial submittal.
1. Note date and content of previous submittal.
 2. Note date and content of revision in label or title block, and clearly indicate extent of revision.
 3. Resubmit submittals until they are marked with approval notation from Architect's action stamp.
- E. Distribution: Furnish copies of final submittals to manufacturers, subcontractors, suppliers, fabricators, installers, authorities having jurisdiction, and others as necessary for performance of construction activities. Show distribution on transmittal forms.
- F. Use for Construction: Retain complete copies of submittals on Project site. Use only final action submittals that are marked with approval notation from Architect's action stamp.

1.7 SUBMITTAL REQUIREMENTS

- A. Product Data: Collect information into a single submittal for each element of construction and type of product or equipment.
1. If information must be specially prepared for submittal because standard published data are unsuitable for use, submit as Shop Drawings, not as Product Data.
 2. Mark each copy of each submittal to show which products and options are applicable.
 3. Include the following information, as applicable:
 - a. Manufacturer's catalog cuts.
 - b. Manufacturer's product specifications.
 - c. Standard color charts.
 - d. Statement of compliance with specified referenced standards.
 - e. Testing by recognized testing agency.
 - f. Application of testing agency labels and seals.
 - g. Notation of coordination requirements.
 - h. Availability and delivery time information.
 4. For equipment, include the following in addition to the above, as applicable:
 - a. Wiring diagrams that show factory-installed wiring.
 - b. Printed performance curves.
 - c. Operational range diagrams.
 - d. Clearances required to other construction, if not indicated on accompanying Shop Drawings.
 5. Submit Product Data before Shop Drawings, and before or concurrently with Samples.
- B. Shop Drawings: Prepare Project-specific information, drawn accurately to scale. Do not base Shop Drawings on reproductions of the Contract Documents or standard printed data unless submittal based on Architect's digital data drawing files is otherwise permitted.
1. Preparation: Fully illustrate requirements in the Contract Documents. Include the following information, as applicable:
 - a. Identification of products.
 - b. Schedules.
 - c. Compliance with specified standards.
 - d. Notation of coordination requirements.
 - e. Notation of dimensions established by field measurement.
 - f. Relationship and attachment to adjoining construction clearly indicated.
 - g. Seal and signature of professional engineer if specified.
 2. Paper Sheet Size: Except for templates, patterns, and similar full-size Drawings, submit Shop Drawings on sheets at least 8-1/2 by 11 inches, but no larger than 24 by 36 inches

- a. Three opaque (bond) copies of each submittal. Architect will retain two copies; remainder will be returned.
- C. Samples: Submit Samples for review of type, color, pattern, and texture for a check of these characteristics with other materials.
1. Transmit Samples that contain multiple, related components, such as accessories together in one submittal package.
 2. Identification: Permanently attach label on unexposed side of Samples that includes the following:
 - a. Project name and submittal number.
 - b. Generic description of Sample.
 - c. Product name and name of manufacturer.
 - d. Sample source.
 - e. Number and title of applicable Specification Section.
 - f. Specification paragraph number and generic name of each item.
 3. Email Transmittal: Provide PDF transmittal. Include digital image file illustrating Sample characteristics and identification information for record.
 4. Paper Transmittal: Include paper transmittal, including complete submittal information indicated.
 5. Disposition: Maintain sets of approved Samples at Project site, available for quality-control comparisons throughout the course of construction activity. Sample sets may be used to determine final acceptance of construction associated with each set.
 - a. Samples that may be incorporated into the Work are indicated in individual Specification Sections. Such Samples must be in an undamaged condition at time of use.
 - b. Samples not incorporated into the Work, or otherwise designated as Owner's property, are the property of Contractor.
 6. Samples for Initial Selection: Submit manufacturer's color charts consisting of units or sections of units, showing the full range of colors, textures, and patterns available.
 - a. Number of Samples: Submit one full set of available choices where color, pattern, texture, or similar characteristics are required to be selected from manufacturer's product line. Architect will return submittal with options selected.
 7. Samples for Verification: Submit full-size units or Samples of size indicated, prepared from same material to be used for the Work, cured and finished in manner specified, and physically identical with material or product proposed for use, and that show full range of color and texture variations expected. Samples include, but are not limited to, the following: partial sections of manufactured or fabricated components; small cuts or containers of materials; complete units of repetitively used materials; swatches showing color, texture, and pattern; color range sets; and components used for independent testing and inspection.

- a. Number of Samples: Submit three sets of Samples. Architect will retain two Sample sets; remainder will be returned. Mark up and retain one returned Sample set as a project record Sample.
 - 1) Submit a single Sample where assembly details, workmanship, fabrication techniques, connections, operation, and other similar characteristics are to be demonstrated.
 - 2) If variation in color, pattern, texture, or other characteristic is inherent in material or product represented by a Sample, submit at least three sets of paired units that show approximate limits of variations.

- D. Product Schedule: As required in individual Specification Sections, prepare a written summary indicating types of products required for the Work and their intended location. Include the following information in tabular form:
 - 1. Type of product. Include unique identifier for each product indicated in the Contract Documents or assigned by Contractor if none is indicated.
 - 2. Manufacturer and product name, and model number if applicable.
 - 3. Number and name of room or space.
 - 4. Location within room or space.

- E. Qualification Data: Prepare written information that demonstrates capabilities and experience of firm or person. Include lists of completed projects with project names and addresses, contact information of architects and owners, and other information specified.

- F. Design Data: Prepare and submit written and graphic information indicating compliance with indicated performance and design criteria in individual Specification Sections. Include list of assumptions and summary of loads. Include load diagrams if applicable. Provide name and version of software, if any, used for calculations. Number each page of submittal.

- G. Certificates:
 - 1. Certificates and Certifications Submittals: Submit a statement that includes signature of entity responsible for preparing certification. Certificates and certifications shall be signed by an officer or other individual authorized to sign documents on behalf of that entity. Provide a notarized signature where indicated.
 - 2. Installer Certificates: Submit written statements on manufacturer's letterhead, certifying that Installer complies with requirements in the Contract Documents and, where required, is authorized by manufacturer for this specific Project.
 - 3. Manufacturer Certificates: Submit written statements on manufacturer's letterhead, certifying that manufacturer complies with requirements in the Contract Documents. Include evidence of manufacturing experience where required.
 - 4. Material Certificates: Submit written statements on manufacturer's letterhead, certifying that material complies with requirements in the Contract Documents.
 - 5. Product Certificates: Submit written statements on manufacturer's letterhead, certifying that product complies with requirements in the Contract Documents.

6. Welding Certificates: Prepare written certification that welding procedures and personnel comply with requirements in the Contract Documents. Submit record of AWS B2.1/B2.1M on AWS forms. Include names of firms and personnel certified.

H. Test and Research Reports:

1. Compatibility Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of compatibility tests performed before installation of product. Include written recommendations for substrate preparation and primers required.
2. Field Test Reports: Submit written reports indicating and interpreting results of field tests performed either during installation of product or after product is installed in its final location, for compliance with requirements in the Contract Documents.
3. Material Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting test results of material for compliance with requirements in the Contract Documents.
4. Preconstruction Test Reports: Submit reports written by a qualified testing agency, on testing agency's standard form, indicating and interpreting results of tests performed before installation of product, for compliance with performance requirements in the Contract Documents.
5. Product Test Reports: Submit written reports indicating that current product produced by manufacturer complies with requirements in the Contract Documents. Base reports on evaluation of tests performed by manufacturer and witnessed by a qualified testing agency, or on comprehensive tests performed by a qualified testing agency.
6. Research Reports: Submit written evidence, from a model code organization acceptable to authorities having jurisdiction, that product complies with building code in effect for Project. Include the following information:
 - a. Name of evaluation organization.
 - b. Date of evaluation.
 - c. Time period when report is in effect.
 - d. Product and manufacturers' names.
 - e. Description of product.
 - f. Test procedures and results.
 - g. Limitations of use.

1.8 CONTRACTOR'S REVIEW

- A. Action Submittals and Informational Submittals: Review each submittal and check for coordination with other Work of the Contract and for compliance with the Contract Documents. Note corrections and field dimensions. Mark with approval stamp before submitting to Architect.
- B. Contractor's Approval: Indicate Contractor's approval for each submittal with a uniform approval stamp. Include name of reviewer, date of Contractor's approval, and statement certifying that submittal has been reviewed, checked, and approved for compliance with the Contract Documents.

1. Architect will not review submittals received from Contractor that do not have Contractor's review and approval.

1.9 ARCHITECT'S REVIEW

- A. Action Submittals: Architect will review each submittal, indicate corrections or revisions required, and return.
 1. PDF Submittals: Architect will indicate, via markup on each submittal, the appropriate action, as follows:
 - a. Reviewed; Approved as Corrected; Revise & Resubmit; Rejected
 2. Paper Submittals: Architect will stamp each submittal with an action stamp and will mark stamp appropriately to indicate action, as follows:
 - a. Reviewed; Approved as Corrected; Revise & Resubmit; Rejected
- B. Informational Submittals: Architect will review each submittal and will not return it, or will return it if it does not comply with requirements. Architect will forward each submittal to appropriate party.
- C. Partial submittals prepared for a portion of the Work will be reviewed when use of partial submittals has received prior approval from Architect.
- D. Incomplete submittals are unacceptable, will be considered nonresponsive, and will be returned for resubmittal without review.
- E. Architect will discard submittals received from sources other than Contractor.
- F. Submittals not required by the Contract Documents will be returned by Architect without action.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 013300

SECTION 013516 - ALTERATION PROJECT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes special procedures for alteration work.

1.3 DEFINITIONS

- A. Alteration Work: This term includes remodeling, renovation, repair, and maintenance work performed within existing spaces or on existing surfaces as part of the Project.
- B. Consolidate: To strengthen loose or deteriorated materials in place.
- C. Design Reference Sample: A sample that represents the Architect's prebid selection of work to be matched; it may be existing work or work specially produced for the Project.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.
- E. Match: To blend with adjacent construction and manifest no apparent difference in material type, species, cut, form, detail, color, grain, texture, or finish; as approved by Architect.
- F. Refinish: To remove existing finishes to base material and apply new finish to match original, or as otherwise indicated.
- G. Repair: To correct damage and defects, retaining existing materials, features, and finishes. This includes patching, piecing-in, splicing, consolidating, or otherwise reinforcing or upgrading materials.
- H. Replace: To remove, duplicate, and reinstall entire item with new material. The original item is the pattern for creating duplicates unless otherwise indicated.
- I. Replicate: To reproduce in exact detail, materials, and finish unless otherwise indicated.
- J. Reproduce: To fabricate a new item, accurate in detail to the original, and from either the same or a similar material as the original, unless otherwise indicated.

- K. Retain: To keep existing items that are not to be removed or dismantled.
- L. Strip: To remove existing finish down to base material unless otherwise indicated.

1.4 COORDINATION

- A. Alteration Work Subschedule: A construction schedule coordinating the sequencing and scheduling of alteration work for entire Project, including each activity to be performed, and based on Contractor's Construction Schedule. Secure time commitments for performing critical construction activities from separate entities responsible for alteration work.
 - 1. Schedule construction operations in sequence required to obtain best Work results.
 - 2. Coordinate sequence of alteration work activities to accommodate the following:
 - a. Owner's continuing occupancy of portions of existing building.
 - b. Owner's partial occupancy of completed Work.
 - c. Other known work in progress.
 - d. Tests and inspections.
 - 3. Detail sequence of alteration work, with start and end dates.
 - 4. Utility Services: Indicate how long utility services will be interrupted. Coordinate shutoff, capping, and continuation of utility services.
 - 5. Use of elevator and stairs.
 - 6. Equipment Data: List gross loaded weight, axle-load distribution, and wheel-base dimension data for mobile and heavy equipment proposed for use in existing structure. Do not use such equipment without certification from Contractor's professional engineer that the structure can support the imposed loadings without damage.

1.5 MATERIALS OWNERSHIP

- A. Historic items, relics, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, antiques, and other items of interest or value to Owner that may be encountered during the Work, regardless of whether they were previously documented, remain Owner's property.
 - 1. Carefully dismantle and salvage each item or object in a manner to prevent damage and protect it from damage, then promptly deliver it to Owner at Project site.

1.6 INFORMATIONAL SUBMITTALS

- A. Preconstruction Documentation: Show preexisting conditions of adjoining construction and site improvements that are to remain, including finish surfaces, that might be misconstrued as damage caused by Contractor's alteration work operations.

- B. Fire-Prevention Plan: Submit 30 days before work begins.

1.7 QUALITY ASSURANCE

- A. Title X Requirement: Each firm conducting activities that disturb painted surfaces shall be a "Lead-Safe Certified Firm" according to 40 CFR 745, Subpart E, and use only workers that are trained in lead-safe work practices.
- B. Fire-Prevention Plan: Prepare a written plan for preventing fires during the Work, including placement of fire extinguishers, fire blankets, rag buckets, and other fire-control devices during each phase or process. Coordinate plan with Owner's fire-protection equipment and requirements. Include fire-watch personnel's training, duties, and authority to enforce fire safety.
- C. Safety and Health Standard: Comply with ANSI/ASSE A10.6.

1.8 STORAGE AND HANDLING OF SALVAGED MATERIALS

- A. Existing Materials to Remain: Protect construction indicated to remain against damage and soiling from construction work. Where permitted by Architect, items may be dismantled and taken to a suitable, protected storage location during construction work and reinstalled in their original locations after alteration and other construction work in the vicinity is complete.

1.9 FIELD CONDITIONS

- A. Survey of Existing Conditions: Record existing conditions that affect the Work by use of preconstruction photographs.
 - 1. Comply with requirements specified in Section 013233 "Photographic Documentation."
- B. Discrepancies: Notify Architect of discrepancies between existing conditions and Drawings before proceeding with removal and dismantling work.

PART 2 - PRODUCTS - (Not Used)

PART 3 - EXECUTION

3.1 PROTECTION

- A. Protect persons, motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm resulting from alteration work.

1. Provide temporary barricades, barriers, and directional signage to exclude the public from areas where alteration work is being performed.
2. Erect temporary barriers to form and maintain fire-egress routes.
3. Contain dust and debris generated by alteration work and prevent it from reaching the public or adjacent surfaces.
4. Provide shoring, bracing, and supports as necessary. Do not overload structural elements.
5. Protect floors and other surfaces along hauling routes from damage, wear, and staining.

B. Temporary Protection of Materials to Remain:

1. Protect existing materials with temporary protections and construction. Do not remove existing materials unless otherwise indicated.
2. Do not attach temporary protection to existing surfaces except as indicated as part of the alteration work program.

C. Comply with each product manufacturer's written instructions for protections and precautions. Protect against adverse effects of products and procedures on people and adjacent materials, components, and vegetation.

D. Utility and Communications Services:

1. Notify Owner, Architect, authorities having jurisdiction, and entities owning or controlling wires, conduits, pipes, and other services affected by alteration work before commencing operations.
2. Disconnect and cap pipes and services as required by authorities having jurisdiction, as required for alteration work.
3. Maintain existing services unless otherwise indicated; keep in service and protect against damage during operations. Provide temporary services during interruptions to existing utilities.

3.2 PROTECTION FROM FIRE

A. General: Follow fire-prevention plan and the following:

1. Comply with NFPA 241 requirements unless otherwise indicated.
2. Remove and keep area free of combustibles, including rubbish, paper, waste, and chemicals, unless necessary for the immediate work.

B. Heat-Generating Equipment and Combustible Materials: Comply with the following procedures while performing work with heat-generating equipment or combustible materials, including welding, torch-cutting, soldering, brazing, removing paint with heat, or other operations where open flames or implements using high heat or combustible solvents and chemicals are anticipated:

1. Obtain Owner's approval for operations involving use of open-flame or welding or other high-heat equipment. Notify Owner at least 72 hours before each occurrence, indicating location of such work.
2. As far as practicable, restrict heat-generating equipment to outside the building.

3. Do not perform work with heat-generating equipment in or near rooms or in areas where flammable liquids or explosive vapors are present or thought to be present. Use a combustible gas indicator test to ensure that the area is safe.
 4. Use fireproof baffles to prevent flames, sparks, hot gases, or other high-temperature material from reaching surrounding combustible material.
 5. Fire Watch: Before working with heat-generating equipment or combustible materials, station personnel to serve as a fire watch at each location where such work is performed. Fire-watch personnel shall have the authority to enforce fire safety. Station fire watch according to NFPA 51B, NFPA 241, and as follows:
 - a. Train each fire watch in the proper operation of fire-control equipment and alarms.
 - b. Prohibit fire-watch personnel from other work that would be a distraction from fire-watch duties.
 - c. Cease work with heat-generating equipment whenever fire-watch personnel are not present.
 - d. Have fire-watch personnel perform final fire-safety inspection each day beginning no sooner than 30 minutes after conclusion of work to detect hidden or smoldering fires and to ensure that proper fire prevention is maintained.
 - e. Maintain fire-watch personnel at Project site until 60 minutes after conclusion of daily work.
- C. Fire-Control Devices: Provide and maintain fire extinguishers, fire blankets, and rag buckets for disposal of rags with combustible liquids. Maintain each as suitable for the type of fire risk in each work area. Ensure that nearby personnel and the fire-watch personnel are trained in fire-extinguisher and blanket use.
 - D. Protect motor vehicles, surrounding surfaces of building, building site, plants, and surrounding buildings from harm or spillage resulting from applications of chemicals and adhesives.
 - E. Cover adjacent surfaces with protective materials that are proven to resist chemicals selected for Project unless chemicals being used will not damage adjacent surfaces as indicated in alteration work program. Use covering materials and masking agents that are waterproof and UV resistant and that will not stain or leave residue on surfaces to which they are applied. Apply protective materials according to manufacturer's written instructions. Do not apply liquid masking agents or adhesives to painted or porous surfaces. When no longer needed, promptly remove protective materials.
 - F. Do not apply chemicals during winds of sufficient force to spread them to unprotected surfaces.
 - G. Neutralize alkaline and acid wastes and legally dispose of off Owner's property.
 - H. Collect and dispose of runoff from chemical operations by legal means and in a manner that prevents soil contamination, soil erosion, undermining of paving and foundations, damage to landscaping, or water penetration into building interior.

3.3 GENERAL ALTERATION WORK

- A. Have specialty work performed only by qualified specialists.
- B. Ensure that supervisory personnel are present when work begins and during its progress.
- C. Perform surveys of Project site as the Work progresses to detect hazards resulting from alterations.
- D. Notify Architect of visible changes in the integrity of material or components whether from environmental causes including biological attack, UV degradation, freezing, or thawing or from structural defects including cracks, movement, or distortion.
 - 1. Do not proceed with the work in question until directed by Architect.

END OF SECTION 013516

SECTION 015000 - TEMPORARY FACILITIES AND CONTROLS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes requirements for temporary utilities, support facilities, and security and protection facilities.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for work restrictions and limitations on utility interruptions.

1.3 USE CHARGES

- A. Installation, removal, and use charges for temporary facilities shall be included in the Contract Sum unless otherwise indicated. Allow other entities engaged in the Project to use temporary services and facilities without cost, including, but not limited to Architect, occupants of Project, testing agencies, and authorities having jurisdiction.
- B. Water from Existing System: Water from Owner's existing water system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.
- C. Electric Power Service from Existing System: Electric power from Owner's existing system is available for use without metering and without payment of use charges. Provide connections and extensions of services as required for construction operations.

1.4 INFORMATIONAL SUBMITTALS

- A. Site Utilization Plan: Show temporary facilities, temporary utility lines and connections, staging areas, construction site entrances, vehicle circulation, and parking areas for construction personnel.
- B. Implementation and Termination Schedule: Within 15 days of date established for commencement of the Work, submit schedule indicating implementation and termination dates of each temporary utility.

- C. Project Identification and Temporary Signs: Show fabrication and installation details, including plans, elevations, details, layouts, typestyles, graphic elements, and message content.
- D. Fire-Safety Program: Show compliance with requirements of NFPA 241 and authorities having jurisdiction. Indicate Contractor personnel responsible for management of fire-prevention program.
- E. Moisture- and Mold-Protection Plan: Describe procedures and controls for protecting materials and construction from water absorption and damage and mold. Describe delivery, handling, storage, installation, and protection provisions for materials subject to water absorption or water damage.
 - 1. Indicate procedures for discarding water-damaged materials, protocols for mitigating water intrusion into completed Work, and requirements for replacing water-damaged Work.
 - 2. Indicate sequencing of work that requires water, such as concrete installation and plastering, and describe plans for dealing with water from these operations. Show procedures for verifying that wet construction has dried sufficiently to permit installation of finish materials.
 - 3. Indicate methods to be used to avoid trapping water in finished work.
- F. Dust- and HVAC-Control Plan: Submit coordination drawing and narrative that indicates the dust- and HVAC-control measures proposed for use, proposed locations, and proposed time frame for their operation. Include the following:
 - 1. Locations of dust-control partitions at each phase of work.
 - 2. HVAC system isolation schematic drawing.
 - 3. Location of proposed air-filtration system discharge.
 - 4. Waste-handling procedures.
 - 5. Other dust-control measures.
- G. Noise and Vibration Control Plan: Identify construction activities that may impact the occupancy and use of existing spaces within the building or adjacent existing buildings, whether occupied by others, or occupied by the Owner. Include the following:
 - 1. Methods used to meet the goals and requirements of the Owner.
 - 2. Concrete cutting method(s) to be used.
 - 3. Location of construction devices on the site.
 - 4. Indicate activities that may disturb building occupants and that are planned to be performed during non-standard working hours as coordinated with the Owner.

1.5 QUALITY ASSURANCE

- A. Electric Service: Comply with NECA, NEMA, and UL standards and regulations for temporary electric service. Install service to comply with NFPA 70.
- B. Tests and Inspections: Arrange for authorities having jurisdiction to test and inspect each temporary utility before use. Obtain required certifications and permits.

1.6 PROJECT CONDITIONS

- A. Temporary Use of Permanent Facilities: Engage Installer of each permanent service to assume responsibility for operation, maintenance, and protection of each permanent service during its use as a construction facility before Owner's acceptance, regardless of previously assigned responsibilities.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Chain-Link Fencing: Minimum 2-inch, 0.148-inch thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch OD line posts and 2-7/8-inch OD corner and pull posts, with 1-5/8-inch OD top rails.
- B. Portable Chain-Link Fencing: Minimum 2-inch, 0.148-inch thick, galvanized-steel, chain-link fabric fencing; minimum 6 feet high with galvanized-steel pipe posts; minimum 2-3/8-inch OD line posts and 2-7/8-inch OD corner and pull posts, with 1-5/8-inch OD top and bottom rails. Provide concrete bases for supporting posts.
- C. Fencing Windscreen Privacy Screen: Polyester fabric scrim with grommets for attachment to chain-link fence, sized to height of fence, in color selected by Architect from manufacturer's standard colors.
- D. Polyethylene Sheet: Reinforced, fire-resistive sheet, 10-mil minimum thickness, with flame-spread rating of 15 or less in accordance with ASTM E84 and passing NFPA 701 Test Method 2.
- E. Dust-Control Adhesive-Surface Walk-Off Mats: Provide mats, minimum 36 by 60 inches.

2.2 TEMPORARY FACILITIES

- A. Field Offices: Prefabricated or mobile units with serviceable finishes, temperature controls, and foundations adequate for normal loading.
- B. Storage and Fabrication Sheds: Provide sheds sized, furnished, and equipped to accommodate materials and equipment for construction operations.
 - 1. Store combustible materials apart from building.

2.3 EQUIPMENT

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

PART 3 - EXECUTION

3.1 TEMPORARY FACILITIES, GENERAL

- A. Conservation: Coordinate construction and use of temporary facilities with consideration given to conservation of energy, water, and materials. Coordinate use of temporary utilities to minimize waste.
 - 1. Salvage materials and equipment involved in performance of, but not actually incorporated into, the Work. See other Sections for disposition of salvaged materials that are designated as Owner's property.

3.2 INSTALLATION, GENERAL

- A. Locate facilities where they will serve Project adequately and result in minimum interference with performance of the Work. Relocate and modify facilities as required by progress of the Work.
 - 1. Locate facilities to limit site disturbance as specified in Section 011000 "Summary."
- B. Provide each facility ready for use when needed to avoid delay. Do not remove until facilities are no longer needed.

3.3 TEMPORARY UTILITY INSTALLATION

- A. General: Install temporary service or connect to existing service.
 - 1. Arrange with utility company, Owner, and existing users for time when service can be interrupted, if necessary, to make connections for temporary services.
- B. Water Service: Connect to Owner's existing water service facilities. Clean and maintain water service facilities in a condition acceptable to Owner. At Substantial Completion, restore these facilities to condition existing before initial use.
- C. Sanitary Facilities: Provide temporary toilets, wash facilities, safety shower and eyewash facilities, and drinking water for use of construction personnel. Comply with requirements of authorities having jurisdiction for type, number, location, operation, and maintenance of fixtures and facilities.
- D. Isolation of Work Areas in Occupied Facilities: Prevent dust, fumes, and odors from entering occupied areas.
 - 1. Prior to commencing work, isolate the HVAC system in area where work is to be performed.
 - a. Disconnect supply and return ductwork in work area from HVAC systems servicing occupied areas.

2. Maintain dust partitions during the Work. Use vacuum collection attachments on dust-producing equipment. Isolate limited work within occupied areas using portable dust-containment devices.
 3. Perform daily construction cleanup and final cleanup using approved, HEPA-filter-equipped vacuum equipment.
- E. Electric Power Service: Connect to Owner's existing electric power service. Maintain equipment in a condition acceptable to Owner.
- F. Lighting: Provide temporary lighting with local switching that provides adequate illumination for construction operations, observations, inspections, and traffic conditions.
1. Install and operate temporary lighting that fulfills security and protection requirements without operating entire system.

3.4 SUPPORT FACILITIES INSTALLATION

- A. Substantial Completion. Personnel remaining after Substantial Completion will be permitted to use permanent facilities, under conditions acceptable to Owner. Comply with the following:
1. Provide construction for temporary field offices, shops, and sheds located within construction area or within 30 feet of building lines that is noncombustible in accordance with ASTM E136. Comply with NFPA 241.
- B. Parking: Use designated areas of Owner's existing parking areas for construction personnel.
- C. Storage and Staging: Use designated areas of Project site for storage and staging needs.
- D. Dewatering Facilities and Drains: Comply with requirements of authorities having jurisdiction. Maintain Project site, excavations, and construction free of water.
1. Dispose of rainwater in a lawful manner that will not result in flooding Project or adjoining properties or endanger permanent Work or temporary facilities.
 2. Remove snow and ice as required to minimize accumulations.
- E. Waste Disposal Facilities: Provide waste-collection containers in sizes adequate to handle waste from construction operations. Comply with requirements of authorities having jurisdiction. Comply with progress cleaning requirements in Section 017300 "Execution."
- F. Lifts and Hoists: Provide facilities necessary for hoisting materials and personnel.
1. Truck cranes and similar devices used for hoisting materials are considered "tools and equipment" and not temporary facilities.

3.5 SECURITY AND PROTECTION FACILITIES INSTALLATION

- A. Protection of Existing Facilities: Protect existing vegetation, equipment, structures, utilities, and other improvements at Project site and on adjacent properties, except those indicated to be removed or altered. Repair damage to existing facilities.
- B. Environmental Protection: Provide protection, operate temporary facilities, and conduct construction as required to comply with environmental regulations and that minimize possible air, waterway, and subsoil contamination or pollution or other undesirable effects.
 - 1. Comply with work restrictions specified in Section 011000 "Summary."
- C. Temporary Erosion and Sedimentation Control: Comply with requirements of EPA Construction General Permit or authorities having jurisdiction, whichever is more stringent.
- D. Stormwater Control: Comply with requirements of authorities having jurisdiction. Provide barriers in and around excavations and subgrade construction to prevent flooding by runoff of stormwater from heavy rains.
- E. Tree and Plant Protection: Install temporary fencing located as indicated or outside the drip line of trees to protect vegetation from damage from construction operations. Protect tree root systems from damage, flooding, and erosion.
- F. Pest Control: Engage pest-control service to recommend practices to minimize attraction and harboring of rodents, roaches, and other pests and to perform extermination and control procedures at regular intervals, so Project will be free of pests and their residues at Substantial Completion. Perform control operations lawfully, using materials approved by authorities having jurisdiction.
- G. Site Enclosure Fence: Before construction operations begin, furnish and install site enclosure fence in a manner that will prevent people from easily entering site except by entrance gates.
 - 1. Extent of Fence: As required to enclose entire Project site or portion determined sufficient to accommodate construction operations.
 - 2. Maintain security by limiting number of keys and restricting distribution to authorized personnel. Furnish one set of keys to Owner.
- H. Security Enclosure and Lockup: Install temporary enclosure around partially completed areas of construction. Provide lockable entrances to prevent unauthorized entrance, vandalism, theft, and similar violations of security. Lock entrances at end of each workday.
- I. Barricades, Warning Signs, and Lights: Comply with requirements of authorities having jurisdiction for erecting structurally adequate barricades, including warning signs and lighting.
 - 1. Construct dustproof partitions with gypsum wallboard, with joints taped on occupied side, and fire-retardant-treated plywood on construction operations side.

- J. Temporary Fire Protection: Install and maintain temporary fire-protection facilities of types needed to protect against reasonably predictable and controllable fire losses. Comply with NFPA 241; manage fire-prevention program.
 - 1. Prohibit smoking in construction areas. Comply with additional limits on smoking specified in other Sections.
 - 2. Supervise welding operations, combustion-type temporary heating units, and similar sources of fire ignition in accordance with requirements of authorities having jurisdiction.
 - 3. Develop and supervise an overall fire-prevention and -protection program for personnel at Project site. Review needs with local fire department and establish procedures to be followed. Instruct personnel in methods and procedures. Post warnings and information.

3.6 MOISTURE AND MOLD CONTROL

- A. Moisture and Mold Protection: Protect stored materials and installed Work in accordance with Moisture and Mold Protection Plan.
- B. Exposed Construction Period: Before installation of weather barriers, when materials are subject to wetting and exposure and to airborne mold spores, protect as follows:
 - 1. Protect porous materials from water damage.
 - 2. Protect stored and installed material from flowing or standing water.
 - 3. Keep porous and organic materials from coming into prolonged contact with concrete.
 - 4. Remove standing water from decks.
 - 5. Keep deck openings covered or dammed.
- C. Partially Enclosed Construction Period: After installation of weather barriers but before full enclosure and conditioning of building, when installed materials are still subject to infiltration of moisture and ambient mold spores, protect as follows:
 - 1. Do not load or install drywall or other porous materials or components, or items with high organic content, into partially enclosed building.
 - 2. Keep interior spaces reasonably clean and protected from water damage.
 - 3. Periodically collect and remove waste containing cellulose or other organic matter.
 - 4. Discard or replace water-damaged material.
 - 5. Do not install material that is wet.
 - 6. Discard and replace stored or installed material that begins to grow mold.
 - 7. Perform work in a sequence that allows wet materials adequate time to dry before enclosing the material in gypsum board or other interior finishes.
- D. Controlled Construction Period: After completing and sealing of the building enclosure but prior to the full operation of permanent HVAC systems, maintain as follows:
 - 1. Control moisture and humidity inside building by maintaining effective dry-in conditions.
 - 2. Use temporary or permanent HVAC system to control humidity within ranges specified for installed and stored materials.

3. Comply with manufacturer's written instructions for temperature, relative humidity, and exposure to water limits.
 - a. Hygroscopic materials that may support mold growth, including wood and gypsum-based products, that become wet during the course of construction and remain wet for 48 hours are considered defective and require replacing.
 - b. Measure moisture content of materials that have been exposed to moisture during construction operations or after installation. Record readings beginning at time of exposure and continuing daily for 48 hours. Identify materials containing moisture levels higher than allowed. Report findings in writing to Architect.
 - c. Remove and replace materials that cannot be completely restored to their manufactured moisture level within 48 hours.

3.7 OPERATION, TERMINATION, AND REMOVAL

- A. Maintenance: Maintain facilities in good operating condition until removal.
 1. Maintain operation of temporary enclosures, heating, cooling, humidity control, ventilation, and similar facilities on a 24-hour basis where required to achieve indicated results and to avoid possibility of damage.
- B. Temporary Facility Changeover: Do not change over from using temporary security and protection facilities to permanent facilities until Substantial Completion.
- C. Termination and Removal: Remove each temporary facility when need for its service has ended, when it has been replaced by authorized use of a permanent facility, or no later than Substantial Completion. Complete or, if necessary, restore permanent construction that may have been delayed because of interference with temporary facility. Repair damaged Work, clean exposed surfaces, and replace construction that cannot be satisfactorily repaired.
 1. Materials and facilities that constitute temporary facilities are property of Contractor.
 2. Remove materials contaminated with road oil, asphalt and other petrochemical compounds, and other substances that might impair growth of plant materials or lawns.
 3. At Substantial Completion, repair, renovate, and clean permanent facilities used during construction period. Comply with final cleaning requirements specified in Section 017700 "Closeout Procedures."

END OF SECTION 015000

SECTION 016000 - PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for selection of products for use in Project; product delivery, storage, and handling; manufacturers' standard warranties on products; special warranties; and comparable products.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for Contractor requirements related to Owner-furnished products.
 - 2. Section 012300 "Alternates" for products selected under an alternate.
 - 3. Section 012500 "Substitution Procedures" for requests for substitutions.
 - 4. Section 014200 "References" for applicable industry standards for products specified.
 - 5. Section 01770 "Closeout Procedures" for submitting warranties.

1.3 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Salvaged items or items reused from other projects are not considered new products. Items that are manufactured or fabricated to include recycled content materials are considered new products, unless indicated otherwise.
 - 3. Comparable Product: Product by named manufacturer that is demonstrated and approved through the comparable product submittal process described in Part 2 "Comparable Products" Article, to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.

- B. Basis-of-Design Product Specification: A specification in which a single manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation. Published attributes and characteristics of basis-of-design product establish salient characteristics of products.
 - 1. Evaluation of Comparable Products: In addition to the basis-of-design product description, product attributes and characteristics may be listed to establish the significant qualities related to type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other special features and requirements for purposes of evaluating comparable products of additional manufacturers named in the specification. Manufacturer's published attributes and characteristics of basis-of-design product also establish salient characteristics of products for purposes of evaluating comparable products.
- C. Subject to Compliance with Requirements: Where the phrase "Subject to compliance with requirements" introduces a product selection procedure in an individual Specification Section, provide products qualified under the specified product procedure. In the event that a named product or product by a named manufacturer does not meet the other requirements of the specifications, select another named product or product from another named manufacturer that does meet the requirements of the specifications; submit a comparable product request or substitution request, if applicable.
- D. Comparable Product Request Submittal: An action submittal requesting consideration of a comparable product, including the following information:
 - 1. Identification of basis-of-design product or fabrication or installation method to be replaced, including Specification Section number and title and Drawing numbers and titles.
 - 2. Data indicating compliance with the requirements specified in Part 2 "Comparable Products" Article.
- E. Basis-of-Design Product Specification Submittal: An action submittal complying with requirements in Section 013300 "Submittal Procedures."
- F. Substitution: Refer to Section 012500 "Substitution Procedures" for definition and limitations on substitutions.

1.4 QUALITY ASSURANCE

- A. Compatibility of Options: If Contractor is given option of selecting between two or more products for use on Project, select product compatible with products previously selected, even if previously selected products were also options.
 - 1. Resolution of Compatibility Disputes between Multiple Contractors:
 - a. Contractors are responsible for providing products and construction methods compatible with products and construction methods of other contractors.

- b. If a dispute arises between the multiple contractors over concurrently selectable but incompatible products, Architect will determine which products shall be used.
- B. Identification of Products: Except for required labels and operating data, do not attach or imprint manufacturer or product names or trademarks on exposed surfaces of products or equipment that will be exposed to view in occupied spaces or on the exterior.
 1. Labels: Locate required product labels and stamps on a concealed surface, or, where required for observation following installation, on a visually accessible surface that is not conspicuous.
 2. Equipment Nameplates: Provide a permanent nameplate on each item of service- or power-operated equipment. Locate on a visually accessible but inconspicuous surface. Include information essential for operation, including the following:
 - a. Name of product and manufacturer.
 - b. Model and serial number.
 - c. Capacity.
 - d. Speed.
 - e. Ratings.
 3. See individual identification Sections in Divisions 21, 22, 23, and 26 for additional equipment identification requirements.

1.5 COORDINATION

- A. Modify or adjust affected work as necessary to integrate work of approved comparable products and approved substitutions.

1.6 PRODUCT DELIVERY, STORAGE, AND HANDLING

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

C. Storage:

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

1.7 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
1. Manufacturer's Warranty: Written standard warranty form furnished by individual manufacturer for a particular product and issued in the name of the Owner or endorsed by manufacturer to Owner.
 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner and issued in the name of the Owner or endorsed by manufacturer to Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 2. Specified Form: When specified forms are included in the Project Manual, prepare a written document, using indicated form properly executed.
 3. See other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 017700 "Closeout Procedures."

PART 2 - PRODUCTS

2.1 PRODUCT SELECTION PROCEDURES

- A. General Product Requirements: Provide products that comply with the Contract Documents, are undamaged and, unless otherwise indicated, are new at time of installation.
1. Provide products complete with accessories, trim, finish, fasteners, and other items needed for a complete installation and indicated use and effect.
 2. Standard Products: If available, and unless custom products or nonstandard options are specified, provide standard products of types that have been produced and used successfully in similar situations on other projects.
 3. Owner reserves the right to limit selection to products with warranties meeting requirements of the Contract Documents.
 4. Where products are accompanied by the term "as selected," Architect will make selection.
 5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.
 6. Or Equal: For products specified by name and accompanied by the term "or equal," "or approved equal," or "or approved," comply with requirements in "Comparable Products" Article to obtain approval for use of an unnamed product.
 - a. Submit additional documentation required by Architect in order to establish equivalency of proposed products. Unless otherwise indicated, evaluation of "or equal" product status is by the Architect, whose determination is final.
- B. Product Selection Procedures:
1. Sole Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole product may be indicated by the phrase "Subject to compliance with requirements, provide the following."
 2. Sole Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
 - a. Sole manufacturer/source may be indicated by the phrase "Subject to compliance with requirements, provide products by the following."
 3. Limited List of Products: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.

- a. Limited list of products may be indicated by the phrase "Subject to compliance with requirements, provide one of the following."
 4. Non-Limited List of Products: Where Specifications include a list of names of both available manufacturers and products, provide one of the products listed or an unnamed product that complies with requirements.
 - a. Non-limited list of products is indicated by the phrase "Subject to compliance with requirements, available products that may be incorporated in the Work include, but are not limited to, the following."
 - b. Provision of an unnamed product is not considered a substitution, if the product complies with requirements.
 5. Limited List of Manufacturers: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered unless otherwise indicated.
 - a. Limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, provide products by one of the following."
 6. Non-Limited List of Manufacturers: Where Specifications include a list of available manufacturers, provide a product by one of the manufacturers listed or a product by an unnamed manufacturer that complies with requirements.
 - a. Non-limited list of manufacturers is indicated by the phrase "Subject to compliance with requirements, available manufacturers whose products may be incorporated in the Work include, but are not limited to, the following."
 - b. Provision of products of an unnamed manufacturer is not considered a substitution, if the product complies with requirements.
 7. Basis-of-Design Product: Where Specifications name a product, or refer to a product indicated on Drawings, and include a list of manufacturers, provide the specified or indicated product or a comparable product by one of the other named manufacturers. Drawings and Specifications may additionally indicate sizes, profiles, dimensions, and other characteristics that are based on the product named. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product by one of the other named manufacturers.
 - a. For approval of products by unnamed manufacturers, comply with requirements in Section 012500 "Substitution Procedures" for substitutions for convenience.
- C. Visual Selection Specification: Where Specifications include the phrase "as selected by Architect from manufacturer's full range" or a similar phrase, select a product that complies with requirements. Architect will select color, gloss, pattern, density, or texture from manufacturer's product line that includes both standard and premium items.

2.2 COMPARABLE PRODUCTS

- A. Conditions for Consideration of Comparable Products: Architect will consider Contractor's request for comparable product when the following conditions are satisfied. If the following conditions are not satisfied, Architect may return requests without action, except to record noncompliance with the following requirements:
1. Evidence that proposed product does not require revisions to the Contract Documents, is consistent with the Contract Documents, will produce the indicated results, and is compatible with other portions of the Work.
 2. Detailed comparison of significant qualities of proposed product with those of the named basis-of-design product. Significant product qualities include attributes, such as type, function, in-service performance and physical properties, weight, dimension, durability, visual characteristics, and other specific features and requirements.
 3. Evidence that proposed product provides specified warranty.
 4. List of similar installations for completed projects, with project names and addresses and names and addresses of architects and owners, if requested.
 5. Samples, if requested.
- B. Architect's Action on Comparable Products Submittal: If necessary, Architect will request additional information or documentation for evaluation, as specified in Section 013300 "Submittal Procedures."
1. Form of Approval of Submittal: As specified in Section 013300 "Submittal Procedures."
 2. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated.
- C. Submittal Requirements, Two-Step Process: Approval by the Architect of Contractor's request for use of comparable product is not intended to satisfy other submittal requirements. Comply with specified submittal requirements.

PART 3 - EXECUTION (Not Used)

END OF SECTION 016000

SECTION 017300 - EXECUTION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes general administrative and procedural requirements governing execution of the Work, including, but not limited to, the following:
 - 1. Construction layout.
 - 2. Field engineering and surveying.
 - 3. Installation of the Work.
 - 4. Cutting and patching.
 - 5. Progress cleaning.
 - 6. Starting and adjusting.
 - 7. Protection of installed construction.
- B. Related Requirements:
 - 1. Section 011000 "Summary" for limits on use of Project site.
 - 2. Section 013300 "Submittal Procedures" for submitting surveys.
 - 3. Section 024119 "Selective Demolition" for demolition and removal of selected portions of the building.

1.3 DEFINITIONS

- A. Cutting: Removal of in-place construction necessary to permit installation or performance of subsequent work.
- B. Patching: Fitting and repair work required to restore construction to original conditions after installation of subsequent work.

1.4 INFORMATIONAL SUBMITTALS

- A. Certified Surveys: Submit two copies signed by land surveyor.

1.5 CLOSEOUT SUBMITTALS

- A. Final Property Survey: Submit 10 copies showing the Work performed and record survey data.

1.6 QUALITY ASSURANCE

- A. Land Surveyor Qualifications: A professional land surveyor who is legally qualified to practice in jurisdiction where Project is located and who is experienced in providing land-surveying services of the kind indicated.

- B. Cutting and Patching: Comply with requirements for and limitations on cutting and patching of construction elements.

- 1. Operational Elements: Do not cut and patch operating elements and related components in a manner that results in reducing their capacity to perform as intended or that results in increased maintenance or decreased operational life or safety. Operational elements include the following:

- a. Primary operational systems and equipment.
- b. Plumbing piping systems.
- c. Mechanical systems piping and ducts.
- d. Control systems.
- e. Communication systems.
- f. Electrical wiring systems.

- 2. Other Construction Elements: Do not cut and patch other construction elements or components in a manner that could change their load-carrying capacity, that results in reducing their capacity to perform as intended, or that results in increased maintenance or decreased operational life or safety. Other construction elements include but are not limited to the following:

- a. Water, moisture, or vapor barriers.
- b. Membranes and flashings.
- c. Equipment supports.
- d. Piping, ductwork, vessels, and equipment.

- 3. Visual Elements: Do not cut and patch construction in a manner that results in visual evidence of cutting and patching. Do not cut and patch exposed construction in a manner that would, in Architect's opinion, reduce the building's aesthetic qualities. Remove and replace construction that has been cut and patched in a visually unsatisfactory manner.

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

PART 2 - PRODUCTS

2.1 MATERIALS

- A. In-Place Materials: Use materials for patching identical to in-place materials. For exposed surfaces, use materials that visually match in-place adjacent surfaces to the fullest extent possible.
 - 1. If identical materials are unavailable or cannot be used, use materials that, when installed, will provide a match acceptable to Architect for the visual and functional performance of in-place materials. Use materials that are not considered hazardous.
- B. Cleaning Agents: Use cleaning materials and agents recommended by manufacturer or fabricator of the surface to be cleaned. Do not use cleaning agents that are potentially hazardous to health or property or that might damage finished surfaces.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Existing Conditions: The existence and location of underground and other utilities and construction indicated as existing are not guaranteed. Before beginning sitework, investigate and verify the existence and location of underground utilities, mechanical and electrical systems, and other construction affecting the Work.
 - 1. Before construction, verify the location and invert elevation at points of connection of sanitary sewer, storm sewer, gas service piping, and water-service piping; underground electrical services; and other utilities.
 - 2. Furnish location data for work related to Project that must be performed by public utilities serving Project site.
- B. Examination and Acceptance of Conditions: Before proceeding with each component of the Work, examine substrates, areas, and conditions, with Installer or Applicator present where indicated, for compliance with requirements for installation tolerances and other conditions affecting performance. Record observations.
 - 1. Examine roughing-in for mechanical and electrical systems to verify actual locations of connections before equipment and fixture installation.
 - 2. Examine walls, floors, and roofs for suitable conditions where products and systems are to be installed.
 - 3. Verify compatibility with and suitability of substrates, including compatibility with existing finishes or primers.
- C. Written Report: Where a written report listing conditions detrimental to performance of the Work is required by other Sections, include the following:

1. Description of the Work, including Specification Section number and paragraph, and Drawing sheet number and detail, where applicable.
 2. List of detrimental conditions, including substrates.
 3. List of unacceptable installation tolerances.
 4. Recommended corrections.
- D. Proceed with installation only after unsatisfactory conditions have been corrected. Proceeding with the Work indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Existing Utility Information: Furnish information to local utility that is necessary to adjust, move, or relocate existing utility structures, utility poles, lines, services, or other utility appurtenances located in or affected by construction. Coordinate with authorities having jurisdiction.
- B. Field Measurements: Take field measurements as required to fit the Work properly. Recheck measurements before installing each product. Where portions of the Work are indicated to fit to other construction, verify dimensions of other construction by field measurements before fabrication. Coordinate fabrication schedule with construction progress to avoid delaying the Work.
- C. Space Requirements: Verify space requirements and dimensions of items shown diagrammatically on Drawings.
- D. Review of Contract Documents and Field Conditions: Immediately on discovery of the need for clarification of the Contract Documents, submit a request for information to Architect in accordance with requirements in Section 013100 "Project Management and Coordination."

3.3 CONSTRUCTION LAYOUT

- A. Verification: Before proceeding to lay out the Work, verify layout information shown on Drawings, in relation to the property survey and existing benchmarks and existing conditions. If discrepancies are discovered, notify Architect promptly.
- B. Building Lines and Levels: Locate and lay out control lines and levels for structures, building foundations, column grids, and floor levels, including those required for mechanical and electrical work. Transfer survey markings and elevations for use with control lines and levels. Level foundations and piers from two or more locations.
- C. Record Log: Maintain a log of layout control work. Record deviations from required lines and levels. Include beginning and ending dates and times of surveys, weather conditions, name and duty of each survey party member, and types of instruments and tapes used. Make the log available for reference by Architect.

3.4 FIELD ENGINEERING

- A. Identification: Owner will identify existing benchmarks, control points, and property corners.
- B. Reference Points: Locate existing permanent benchmarks, control points, and similar reference points before beginning the Work. Preserve and protect permanent benchmarks and control points during construction operations.
 - 1. Do not change or relocate existing benchmarks or control points without prior written approval of Architect. Report lost or destroyed permanent benchmarks or control points promptly. Report the need to relocate permanent benchmarks or control points to Architect before proceeding.
 - 2. Replace lost or destroyed permanent benchmarks and control points promptly. Base replacements on the original survey control points.
- C. Benchmarks: Establish and maintain a minimum of two permanent benchmarks on Project site, referenced to data established by survey control points. Comply with authorities having jurisdiction for type and size of benchmark.
 - 1. Record benchmark locations, with horizontal and vertical data, on Project Record Documents.
 - 2. Where the actual location or elevation of layout points cannot be marked, provide temporary reference points sufficient to locate the Work.
 - 3. Remove temporary reference points when no longer needed. Restore marked construction to its original condition.
- D. Final Property Survey: Engage a land surveyor to prepare a final property survey showing significant features (real property) for Project. Include on the survey a certification, signed by land surveyor, that principal metes, bounds, lines, and levels of Project are accurately positioned as shown on the survey.
 - 1. Show boundary lines, monuments, streets, site improvements and utilities, existing improvements and significant vegetation, adjoining properties, acreage, grade contours, and the distance and bearing from a site corner to a legal point.
 - 2. Recording: At Substantial Completion, have the final property survey recorded by or with authorities having jurisdiction as the official "property survey."

3.5 INSTALLATION

- A. Locate the Work and components of the Work accurately, in correct alignment and elevation, as indicated.
 - 1. Make vertical work plumb, and make horizontal work level.
 - 2. Where space is limited, install components to maximize space available for maintenance and ease of removal for replacement.
 - 3. Conceal pipes, ducts, and wiring in finished areas unless otherwise indicated.
 - 4. Maintain minimum headroom clearance of 96 inches in occupied spaces and in unoccupied spaces, unless otherwise indicated on Drawings.

- B. Comply with manufacturer's written instructions and recommendations for installing products in applications indicated.
- C. Install products at the time and under conditions that will ensure satisfactory results as judged by Architect. Maintain conditions required for product performance until Substantial Completion.
- D. Conduct construction operations, so no part of the Work is subjected to damaging operations or loading in excess of that expected during normal conditions of occupancy of type expected for Project.
- E. Sequence the Work and allow adequate clearances to accommodate movement of construction items on-site and placement in permanent locations.
- F. Tools and Equipment: Select tools or equipment that minimize production of excessive noise levels.
- G. Templates: Obtain and distribute to the parties involved templates for Work specified to be factory prepared and field installed. Check Shop Drawings of other portions of the Work to confirm that adequate provisions are made for locating and installing products to comply with indicated requirements.
- H. Attachment: Provide blocking and attachment plates and anchors and fasteners of adequate size and number to securely anchor each component in place, accurately located and aligned with other portions of the Work. Where size and type of attachments are not indicated, verify size and type required for load conditions with manufacturer.
 - 1. Mounting Heights: Where mounting heights are not indicated, mount components at heights directed by Architect.
 - 2. Allow for building movement, including thermal expansion and contraction.
 - 3. Coordinate installation of anchorages. Furnish setting drawings, templates, and directions for installing anchorages, including sleeves, concrete inserts, anchor bolts, and items with integral anchors, that are to be embedded in concrete or masonry. Deliver such items to Project site in time for installation.
- I. Joints: Make joints of uniform width. Where joint locations in exposed Work are not indicated, arrange joints for the best visual effect, as judged by Architect. Fit exposed connections together to form hairline joints.
- J. Repair or remove and replace damaged, defective, or nonconforming Work.
 - 1. Comply with Section 017700 "Closeout Procedures" for repairing or removing and replacing defective Work.

3.6 CUTTING AND PATCHING

- A. General: Employ skilled workers to perform cutting and patching. Proceed with cutting and patching at the earliest feasible time, and complete without delay.

1. Cut in-place construction to provide for installation of other components or performance of other construction, and subsequently patch as required to restore surfaces to their original condition.
- B. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during installation or cutting and patching operations, by methods and with materials so as not to void existing warranties.
- C. Temporary Support: Provide temporary support of Work to be cut.
- D. Protection: Protect in-place construction during cutting and patching to prevent damage. Provide protection from adverse weather conditions for portions of Project that might be exposed during cutting and patching operations.
- E. Adjacent Occupied Areas: Where interference with use of adjoining areas or interruption of free passage to adjoining areas is unavoidable, coordinate cutting and patching in accordance with requirements in Section 011000 "Summary."
- F. Existing Utility Services and Mechanical/Electrical Systems: Where existing services/systems are required to be removed, relocated, or abandoned, bypass such services/systems before cutting to prevent interruption to occupied areas.
- G. Cutting: Cut in-place construction by sawing, drilling, breaking, chipping, grinding, and similar operations, including excavation, using methods least likely to damage elements retained or adjoining construction.
 1. In general, use hand or small power tools designed for sawing and grinding, not hammering and chopping. Cut holes and slots neatly to minimum size required, and with minimum disturbance of adjacent surfaces. Temporarily cover openings when not in use.
 2. Finished Surfaces: Cut or drill from the exposed or finished side into concealed surfaces.
 3. Concrete: Cut using a cutting machine, such as an abrasive saw or a diamond-core drill.
 4. Excavating and Backfilling: Comply with requirements in applicable Sections where required by cutting and patching operations.
 5. Mechanical and Electrical Services: Cut off pipe or conduit in walls or partitions to be removed. Cap, valve, or plug and seal remaining portion of pipe or conduit to prevent entrance of moisture or other foreign matter after cutting.
 6. Proceed with patching after construction operations requiring cutting are complete.
- H. Patching: Patch construction by filling, repairing, refinishing, closing up, and similar operations following performance of other Work. Patch with durable seams that are as invisible as practicable, as judged by Architect. Provide materials and comply with installation requirements specified in other Sections, where applicable.
 1. Inspection: Where feasible, test and inspect patched areas after completion to demonstrate physical integrity of installation.

2. Exposed Finishes: Restore exposed finishes of patched areas and extend finish restoration into retained adjoining construction in a manner that will eliminate evidence of patching and refinishing.
 - a. Clean piping, conduit, and similar features before applying paint or other finishing materials.
 - b. Restore damaged pipe covering to its original condition.
 3. Floors and Walls: Where walls or partitions that are removed extend one finished area into another, patch and repair floor and wall surfaces in the new space. Provide an even surface of uniform finish, color, texture, and appearance. Remove in-place floor and wall coverings and replace with new materials, if necessary, to achieve uniform color and appearance.
 - a. Where patching occurs in a painted surface, prepare substrate and apply primer and intermediate paint coats appropriate for substrate over the patch, and apply final paint coat over entire unbroken surface containing the patch, corner to corner of wall and edge to edge of ceiling. Provide additional coats until patch blends with adjacent surfaces.
 4. Ceilings: Patch, repair, or rehang in-place ceilings as necessary to provide an even-plane surface of uniform appearance.
 5. Exterior Building Enclosure: Patch components in a manner that restores enclosure to a weathertight condition and ensures thermal and moisture integrity of building enclosure.
- I. Cleaning: Clean areas and spaces where cutting and patching are performed. Remove paint, mortar, oils, putty, and similar materials from adjacent finished surfaces.

3.7 PROGRESS CLEANING

- A. Clean Project site and work areas daily, including common areas. Enforce requirements strictly. Dispose of materials lawfully.
 1. Comply with requirements in NFPA 241 for removal of combustible waste materials and debris.
 2. Do not hold waste materials more than seven days during normal weather or three days if the temperature is expected to rise above 80 deg F.
 3. Containerize hazardous and unsanitary waste materials separately from other waste. Mark containers appropriately and dispose of legally, according to regulations.
 - a. Use containers intended for holding waste materials of type to be stored.
 4. Coordinate progress cleaning for joint-use areas where Contractor and other contractors are working concurrently.
- B. Site: Maintain Project site free of waste materials and debris.

- C. Work Areas: Clean areas where Work is in progress to the level of cleanliness necessary for proper execution of the Work.
 - 1. Remove liquid spills promptly.
 - 2. Where dust would impair proper execution of the Work, broom-clean or vacuum the entire work area, as appropriate.
- D. Installed Work: Keep installed work clean. Clean installed surfaces according to written instructions of manufacturer or fabricator of product installed, using only cleaning materials specifically recommended. If specific cleaning materials are not recommended, use cleaning materials that are not hazardous to health or property and that will not damage exposed surfaces.
- E. Concealed Spaces: Remove debris from concealed spaces before enclosing the space.
- F. Exposed Surfaces: Clean exposed surfaces and protect as necessary to ensure freedom from damage and deterioration at time of Substantial Completion.
- G. Waste Disposal: Do not bury or burn waste materials on-site. Do not wash waste materials down sewers or into waterways. Comply with waste disposal requirements in Section 015000 "Temporary Facilities and Controls."
- H. During handling and installation, clean and protect construction in progress and adjoining materials already in place. Apply protective covering where required to ensure protection from damage or deterioration at Substantial Completion.
- I. Clean and provide maintenance on completed construction as frequently as necessary through the remainder of the construction period. Adjust and lubricate operable components to ensure operability without damaging effects.
- J. Limiting Exposures: Supervise construction operations to ensure that no part of the construction, completed or in progress, is subject to harmful, dangerous, damaging, or otherwise deleterious exposure during the construction period.

3.8 STARTING AND ADJUSTING

- A. Coordinate startup and adjusting of equipment and operating components with requirements in Section 019113 "General Commissioning Requirements."
- B. Start equipment and operating components to confirm proper operation. Remove malfunctioning units, replace with new units, and retest.
- C. Adjust equipment for proper operation. Adjust operating components for proper operation without binding.
- D. Test each piece of equipment to verify proper operation. Test and adjust controls and safeties. Replace damaged and malfunctioning controls and equipment.

- E. Manufacturer's Field Service: Comply with qualification requirements in Section 014000 "Quality Requirements."

3.9 PROTECTION AND REPAIR OF INSTALLED CONSTRUCTION

- A. Provide final protection and maintain conditions that ensure installed Work is without damage or deterioration at time of Substantial Completion.
- B. Repair Work previously completed and subsequently damaged during construction period. Repair to like-new condition.
- C. Protection of Existing Items: Provide protection and ensure that existing items to remain undisturbed by construction are maintained in condition that existed at commencement of the Work.
- D. Comply with manufacturer's written instructions for temperature and relative humidity.

END OF SECTION 017300

SECTION 017419 - CONSTRUCTION WASTE MANAGEMENT AND DISPOSAL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for the following:
 - 1. Disposing of nonhazardous demolition and construction waste.
- B. Related Requirements:
 - 1. Section 311000 "Site Clearing" for disposition of waste resulting from site clearing and removal of above- and below-grade improvements.

1.3 DEFINITIONS

- A. Construction Waste: Building, structure, and site improvement materials and other solid waste resulting from construction, remodeling, renovation, or repair operations. Construction waste includes packaging.
- B. Demolition Waste: Building, structure, and site improvement materials resulting from demolition operations.
- C. Disposal: Removal of demolition or construction waste and subsequent salvage, sale, recycling, or deposit in landfill, incinerator acceptable to authorities having jurisdiction, or designated spoil areas on Owner's property.
- D. Recycle: Recovery of demolition or construction waste for subsequent processing in preparation for reuse.
- E. Salvage: Recovery of demolition or construction waste and subsequent sale or reuse in another facility.
- F. Salvage and Reuse: Recovery of demolition or construction waste and subsequent incorporation into the Work.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition and construction waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.
 - 1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 ACTION SUBMITTALS

- A. Waste Management Plan: Submit plan within 30 days of date established for the Notice to Proceed.

1.6 INFORMATIONAL SUBMITTALS

- A. Landfill and Incinerator Disposal Records: Indicate receipt and acceptance of waste by landfills and incinerator facilities licensed to accept them. Include manifests, weight tickets, receipts, and invoices.
- B. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.
- C. Refrigerant Recovery: Comply with requirements in Section 024119 "Selective Demolition" for refrigerant recovery submittals.

1.7 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Comply with requirements in Section 024119 "Selective Demolition."
- B. Regulatory Requirements: Comply with transportation and disposal regulations of authorities having jurisdiction.

1.8 WASTE MANAGEMENT PLAN

- A. General: Develop a waste management plan according to requirements in this Section. Plan shall consist of waste identification, waste reduction work plan, and cost/revenue analysis. Indicate quantities by weight or volume, but use same units of measure throughout waste management plan.
- B. Waste Identification: Indicate anticipated types and quantities of demolition and construction waste generated by the Work. Use Form CWM-1 for construction waste

and Form CWM-2 for demolition waste. Include estimated quantities and assumptions for estimates.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General: Achieve end-of-Project rates for salvage/recycling of 50 percent by weight of total nonhazardous solid waste generated by the Work. Practice efficient waste management in the use of materials in the course of the Work. Use all reasonable means to divert construction and demolition waste from landfills and incinerators. Facilitate recycling and salvage of materials, including the following:

1. Demolition Waste:

- a. Wood studs
- b. Wood joists.
- c. Plywood and oriented strand board.
- d. Wood trim.
- e. Rough hardware.
- f. Roofing.
- g. Insulation.
- h. Doors and frames.
- i. Door hardware.
- j. Mechanical equipment.
- k. Refrigerants.
- l. Electrical conduit.
- m. Copper wiring.
- n. Lighting fixtures.
- o. Ballasts.
- p. Electrical devices.
- q. Switchgear and panelboards.

2. Construction Waste:

- a. Lumber
- b. Wood sheet materials.
- c. Wood trim.
- d. Roofing.
- e. Insulation.
- f. Gypsum board.
- g. Piping.
- h. Electrical conduit.
- i. Packaging: Regardless of salvage/recycle goal indicated in "General" Paragraph above, recycle 100 percent of the following uncontaminated packaging materials:

- 1) Paper.

- 2) Cardboard.
- 3) Boxes.
- 4) Plastic sheet and film.
- 5) Polystyrene packaging.
- 6) Wood crates.
- 7) Wood pallets.
- 8) Plastic pails.

PART 3 - EXECUTION

3.1 PLAN IMPLEMENTATION

- A. General: Implement approved waste management plan. Provide handling, containers, storage, signage, transportation, and other items as required to implement waste management plan during the entire duration of the Contract.
 1. Comply with operation, termination, and removal requirements in Section 015000 "Temporary Facilities and Controls."
- B. Site Access and Temporary Controls: Conduct waste management operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 1. Designate and label specific areas on Project site necessary for separating materials that are to be recycled.
 2. Comply with Section 015000 "Temporary Facilities and Controls" for controlling dust and dirt, environmental protection, and noise control.

3.2 RECYCLING DEMOLITION AND CONSTRUCTION WASTE, GENERAL A.

General: Recycle paper and beverage containers used by on-site workers.

- B. Preparation of Waste: Prepare and maintain recyclable waste materials according to recycling or reuse facility requirements. Maintain materials free of dirt, adhesives, solvents, petroleum contamination, and other substances deleterious to the recycling process.
- C. Procedures: Separate recyclable waste from other waste materials, trash, and debris. Separate recyclable waste by type at Project site to the maximum extent practical according to approved construction waste management plan.
 1. Provide appropriately marked containers or bins for controlling recyclable waste until removed from Project site. Include list of acceptable and unacceptable materials at each container and bin.
 - a. Inspect containers and bins for contamination and remove contaminated materials if found.

2. Stockpile processed materials on-site without intermixing with other materials. Place, grade, and shape stockpiles to drain surface water. Cover to prevent windblown dust.
3. Stockpile materials away from construction area. Do not store within drip line of remaining trees.
4. Store components off the ground and protect from the weather.
5. Remove recyclable waste from Owner's property and transport to recycling receiver or processor as often as required to prevent overfilling bins.

3.3 DISPOSAL OF WASTE

- A. General: Except for items or materials to be salvaged or recycled, remove waste materials from Project site and legally dispose of them in a landfill or incinerator acceptable to authorities having jurisdiction.
 1. Except as otherwise specified, do not allow waste materials that are to be disposed of accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
- B. Burning: Do not burn waste materials.

END OF SECTION 017419

SECTION 017700 - CLOSEOUT PROCEDURES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Contract closeout, including, but not limited to, the following:
 - 1. Substantial Completion procedures.
 - 2. Final completion procedures.
 - 3. Warranties.
 - 4. Final cleaning.
- B. Related Requirements:
 - 1. Section 012900 "Payment Procedures" for requirements for Applications for Payment for Substantial Completion and Final Completion.
 - 2. Section 013233 "Photographic Documentation" for submitting Final Completion construction photographic documentation.
 - 3. Section 017823 "Operation and Maintenance Data" for additional operation and maintenance manual requirements.
 - 4. Section 017839 "Project Record Documents" for submitting Record Drawings, Record Specifications, and Record Product Data.
 - 5. Section 017900 "Demonstration and Training" for requirements to train the Owner's maintenance personnel to adjust, operate, and maintain products, equipment, and systems.

1.3 DEFINITIONS

- A. List of Incomplete Items: Contractor-prepared list of items to be completed or corrected, prepared for the Architect's use prior to Architect's inspection, to determine if the Work is substantially complete.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of cleaning agent.
- B. Contractor's List of Incomplete Items: Initial submittal at Substantial Completion.

- C. Certified List of Incomplete Items: Final submittal at Final Completion.

1.5 CLOSEOUT SUBMITTALS

- A. Certificates of Release: From authorities having jurisdiction.
- B. Certificate of Insurance: For continuing coverage.
- C. Field Report: For pest-control inspection.

1.6 MAINTENANCE MATERIAL SUBMITTALS

- A. Schedule of Maintenance Material Items: For maintenance material submittal items required by other Sections.

1.7 SUBSTANTIAL COMPLETION PROCEDURES

- A. Contractor's List of Incomplete Items: Prepare and submit a list of items to be completed and corrected (Contractor's "punch list"), indicating the value of each item on the list and reasons why the Work is incomplete.
- B. Submittals Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
 - 1. Certificates of Release: Obtain and submit releases from authorities having jurisdiction, permitting Owner unrestricted use of the Work and access to services and utilities. Include occupancy permits, operating certificates, and similar releases.
 - 2. Submit closeout submittals specified in other Division 01 Sections, including Project Record Documents, operation and maintenance manuals, damage or settlement surveys, property surveys, and similar final record information.
 - 3. Submit closeout submittals specified in individual Sections, including specific warranties, workmanship bonds, maintenance service agreements, final certifications, and similar documents.
 - 4. Submit maintenance material submittals specified in individual Sections, including tools, spare parts, extra materials, and similar items, and deliver to location designated by Architect. Label with manufacturer's name and model number.
 - a. Schedule of Maintenance Material Items: Prepare and submit schedule of maintenance material submittal items, including name and quantity of each item and name and number of related Specification Section. Obtain Architect's signature for receipt of submittals.
 - 5. Submit testing, adjusting, and balancing records.
 - 6. Submit sustainable design submittals not previously submitted.

7. Submit changeover information related to Owner's occupancy, use, operation, and maintenance.
- C. Procedures Prior to Substantial Completion: Complete the following a minimum of 10 days prior to requesting inspection for determining date of Substantial Completion. List items below that are incomplete at time of request.
1. Advise Owner of pending insurance changeover requirements.
 2. Make final changeover of permanent locks and deliver keys to Owner. Advise Owner's personnel of changeover in security provisions.
 3. Complete startup and testing of systems and equipment.
 4. Perform preventive maintenance on equipment used prior to Substantial Completion.
 5. Instruct Owner's personnel in operation, adjustment, and maintenance of products, equipment, and systems. Submit demonstration and training video recordings specified in Section 017900 "Demonstration and Training."
 6. Participate with Owner in conducting inspection and walkthrough.
 7. Terminate and remove temporary facilities from Project site, along with construction tools, and similar elements.
 8. Complete final cleaning requirements.
 9. Touch up paint and otherwise repair and restore marred exposed finishes to eliminate visual defects.
- D. Inspection: Submit a written request for inspection to determine Substantial Completion a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare the Certificate of Substantial Completion after inspection or will notify Contractor of items, either on Contractor's list or additional items identified by Architect, that must be completed or corrected before certificate will be issued.
1. Request reinspection when the Work identified in previous inspections as incomplete is completed or corrected.
 2. Results of completed inspection will form the basis of requirements for Final Completion.

1.8 FINAL COMPLETION PROCEDURES

- A. Submittals Prior to Final Completion: Before requesting final inspection for determining Final Completion, complete the following:
1. Submit a final Application for Payment in accordance with Section 012900 "Payment Procedures."
 2. Certified List of Incomplete Items: Submit certified copy of Architect's Substantial Completion inspection list of items to be completed or corrected (punch list), endorsed and dated by Architect. Certified copy of the list shall state that each item has been completed or otherwise resolved for acceptance.
 3. Certificate of Insurance: Submit evidence of final, continuing insurance coverage complying with insurance requirements.
 4. Submit pest-control final inspection report.

5. Submit Final Completion photographic documentation.

B. Inspection: Submit a written request for final inspection to determine acceptance a minimum of 10 days prior to date the Work will be completed and ready for final inspection and tests. On receipt of request, Architect will either proceed with inspection or notify Contractor of unfulfilled requirements. Architect will prepare a final Certificate for Payment after inspection or will notify Contractor of construction that must be completed or corrected before certificate will be issued.

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

1.9 LIST OF INCOMPLETE ITEMS

A. Organization of List: Include name and identification of each space and area affected by construction operations for incomplete items and items needing correction including, if necessary, areas disturbed by Contractor that are outside the limits of construction.

1. Organize list of spaces in sequential order, starting with exterior areas first, proceeding to interior spaces listed by room or space number.

2. Organize items applying to each space by major element, including categories for ceilings, individual walls, floors, equipment, and building systems.

3. Include the following information at the top of each page:

- a. Project name.
- b. Date.
- c. Name of Architect
- d. Name of Contractor.
- e. Page number.

4. Submit list of incomplete items in the following format:

- a. MS Excel Electronic File: Architect will return annotated file.
- b. PDF Electronic File: Architect will return annotated file.
- c. Three Paper Copies: Architect, will return two copies.

1.10 SUBMITTAL OF PROJECT WARRANTIES

A. Time of Submittal: Submit written warranties on request of Architect for designated portions of the Work where warranties are indicated to commence on dates other than date of Substantial Completion, or when delay in submittal of warranties might limit Owner's rights under warranty.

B. Partial Occupancy: Submit properly executed warranties within 15 days of completion of designated portions of the Work that are completed and occupied or used by Owner during construction period by separate agreement with Contractor.

C. Organize warranty documents into an orderly sequence based on the table of contents of Project Manual.

- D. Warranty Electronic File: Provide warranties and bonds in PDF format. Assemble complete warranty and bond submittal package into a single electronic PDF file with bookmarks enabling navigation to each item. Provide bookmarked table of contents at beginning of document.
 - 1. Submit on digital media acceptable to Architect.
- E. Warranties in Paper Form:
 - 1. Bind warranties and bonds in heavy-duty, three-ring, vinyl-covered, loose-leaf binders, thickness as necessary to accommodate contents, and sized to receive 8-1/2-by-11-inch paper.
 - 2. Provide heavy paper dividers with plastic-covered tabs for each separate warranty. Mark tab to identify the product or installation. Provide a typed description of the product or installation, including the name of the product and the name, address, and telephone number of Installer.
 - 3. Identify each binder on the front and spine with the typed or printed title "WARRANTIES," Project name, and name of Contractor.
- F. Provide additional copies of each warranty to include in operation and maintenance manuals.

PART 2 - PRODUCTS

2.1 MATERIALS

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

PART 3 - EXECUTION

3.1 FINAL CLEANING

- A. General: Perform final cleaning. Conduct cleaning and waste-removal operations to comply with local laws and ordinances and Federal and local environmental and antipollution regulations.
- B. Cleaning: Employ experienced workers or professional cleaners for final cleaning. Clean each surface or unit to condition expected in an average commercial building cleaning and maintenance program. Comply with manufacturer's written instructions.
 - 1. Complete the following cleaning operations before requesting inspection for certification of Substantial Completion for entire Project or for a designated portion of Project:

- a. Clean Project site of rubbish, waste material, litter, and other foreign substances.
 - b. Rake grounds that are not planted, mulched, or paved to a smooth, even-textured surface.
 - c. Remove tools, construction equipment, machinery, and surplus material from Project site.
 - d. Clean exposed exterior and interior hard-surfaced finishes to a dirt-free condition, free of stains, films, and similar foreign substances. Avoid disturbing natural weathering of exterior surfaces. Restore reflective surfaces to their original condition.
 - e. Remove debris and surface dust from limited-access spaces, including roofs, plenums, shafts, trenches, equipment vaults, manholes, attics, and similar spaces.
 - f. Clean flooring, removing debris, dirt, and staining; clean according to manufacturer's recommendations.
 - g. Clean transparent materials, including mirrors and glass in doors and windows. Remove glazing compounds and other noticeable, vision-obscuring materials. Polish mirrors and glass, taking care not to scratch surfaces.
 - h. Remove labels that are not permanent.
 - i. Wipe surfaces of mechanical and electrical equipment, and similar equipment. Remove excess lubrication, paint and mortar droppings, and other foreign substances.
 - j. Clean plumbing fixtures to a sanitary condition, free of stains, including stains resulting from water exposure.
 - k. Replace disposable air filters and clean permanent air filters. Clean exposed surfaces of diffusers, registers, and grills.
 - l. Clean ducts, blowers, and coils if units were operated without filters during construction or that display contamination with particulate matter on inspection.
 - m. Clean luminaires, lamps, globes, and reflectors to function with full efficiency.
 - n. Clean strainers.
 - o. Leave Project clean and ready for occupancy.
- C. Pest Control: Comply with pest control requirements in Section 015000 "Temporary Facilities and Controls." Prepare written report.
- D. Construction Waste Disposal: Comply with waste-disposal requirements in Section 015000 "Temporary Facilities and Controls."

3.2 REPAIR OF THE WORK

- A. Complete repair and restoration operations required by Section 017300 "Execution" before requesting inspection for determination of Substantial Completion.

END OF SECTION 017700

SECTION 017823 - OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for preparing operation and maintenance manuals, including the following:
 - 1. Operation and maintenance documentation directory manuals.
 - 2. Emergency manuals.
 - 3. Systems and equipment operation manuals.
 - 4. Systems and equipment maintenance manuals.
 - 5. Product maintenance manuals.
- B. Related Requirements:
 - 1. Section 013300 "Submittal Procedures" for submitting copies of submittals for operation and maintenance manuals.
 - 2. Section 019113 "General Commissioning Requirements" for verification and compilation of data into operation and maintenance manuals.

1.3 DEFINITIONS

- A. System: An organized collection of parts, equipment, or subsystems united by regular interaction.
- B. Subsystem: A portion of a system with characteristics similar to a system.

1.4 CLOSEOUT SUBMITTALS

- A. Submit operation and maintenance manuals indicated. Provide content for each manual as specified in individual Specification Sections, and as reviewed and approved at the time of Section submittals. Submit reviewed manual content formatted and organized as required by this Section.
 - 1. Architect will comment on whether content of operation and maintenance submittals is acceptable.
 - 2. Where applicable, clarify and update reviewed manual content to correspond to revisions and field conditions.

- B. Format: Submit operation and maintenance manuals in the following format:
 - 1. Submit on digital media acceptable to Architect. Enable reviewer comments on draft submittals.
 - 2. Submit three paper copies. Architect will return two copies.
- C. Initial Manual Submittal: Submit draft copy of each manual at least 30 days before commencing demonstration and training. Architect will comment on whether general scope and content of manual are acceptable.
- D. Final Manual Submittal: Submit each manual in final form prior to requesting inspection for Substantial Completion and at least 15 days before commencing demonstration and training. Architect will return copy with comments.
 - 1. Correct or revise each manual to comply with Architect's comments. Submit copies of each corrected manual within 15 days of receipt of Architect's comments and prior to commencing demonstration and training.
- E. Comply with Section 017700 "Closeout Procedures" for schedule for submitting operation and maintenance documentation.

1.5 FORMAT OF OPERATION AND MAINTENANCE MANUALS

- A. Manuals, Electronic Files: Submit manuals in the form of a multiple file composite electronic PDF file for each manual type required.
 - 1. Electronic Files: Use electronic files prepared by manufacturer where available. Where scanning of paper documents is required, configure scanned file for minimum readable file size.
 - 2. File Names and Bookmarks: Bookmark individual documents based on file names. Name document files to correspond to system, subsystem, and equipment names used in manual directory and table of contents. Group documents for each system and subsystem into individual composite bookmarked files, then create composite manual, so that resulting bookmarks reflect the system, subsystem, and equipment names in a readily navigated file tree. Configure electronic manual to display bookmark panel on opening file.
- B. Manuals, Paper Copy: Submit manuals in the form of hard-copy, bound and labeled volumes.
 - 1. Binders: Heavy-duty, three-ring, vinyl-covered, loose-leaf binders, in thickness necessary to accommodate contents, sized to hold 8-1/2-by-11-inch paper; with clear plastic sleeve on spine to hold label describing contents and with pockets inside covers to hold folded oversize sheets.
 - a. If two or more binders are necessary to accommodate data of a system, organize data in each binder into groupings by subsystem and related components. Cross-reference other binders if necessary to provide essential information for proper operation or maintenance of equipment or system.

- b. Identify each binder on front and spine, with printed title "OPERATION AND MAINTENANCE MANUAL," Project title or name, subject matter of contents, and indicate Specification Section number on bottom of spine. Indicate volume number for multiple-volume sets.
- 2. Dividers: Heavy-paper dividers with plastic-covered tabs for each section of the manual. Mark each tab to indicate contents. Include typed list of products and major components of equipment included in the section on each divider, cross-referenced to Specification Section number and title of Project Manual.
- 3. Protective Plastic Sleeves: Transparent plastic sleeves designed to enclose diagnostic software storage media for computerized electronic equipment. Enclose title pages and directories in clear plastic sleeves.
- 4. Supplementary Text: Prepared on 8-1/2-by-11-inch white bond paper.
- 5. Drawings: Attach reinforced, punched binder tabs on drawings and bind with text.
 - a. If oversize drawings are necessary, fold drawings to same size as text pages and use as foldouts.
 - b. If drawings are too large to be used as foldouts, fold and place drawings in labeled envelopes and bind envelopes in rear of manual. At appropriate locations in manual, insert typewritten pages indicating drawing titles, descriptions of contents, and drawing locations.

1.6 REQUIREMENTS FOR EMERGENCY, OPERATION, AND MAINTENANCE MANUALS

- A. Organization of Manuals: Unless otherwise indicated, organize each manual into a separate section for each system and subsystem, and a separate section for each piece of equipment not part of a system. Each manual shall contain the following materials, in the order listed:
 - 1. Title page.
 - 2. Table of contents.
 - 3. Manual contents.
- B. Title Page: Include the following information:
 - 1. Subject matter included in manual.
 - 2. Name and address of Project.
 - 3. Name and address of Owner.
 - 4. Date of submittal.
 - 5. Name and contact information for Contractor.
 - 6. Name and contact information for Architect.
 - 7. Cross-reference to related systems in other operation and maintenance manuals.
- C. Table of Contents: List each product included in manual, identified by product name, indexed to the content of the volume, and cross-referenced to Specification Section number in Project Manual.

1. If operation or maintenance documentation requires more than one volume to accommodate data, include comprehensive table of contents for all volumes in each volume of the set.
- D. Manual Contents: Organize into sets of manageable size. Arrange contents alphabetically by system, subsystem, and equipment. If possible, assemble instructions for subsystems, equipment, and components of one system into a single binder.
- E. Identification: In the documentation directory and in each operation and maintenance manual, identify each system, subsystem, and piece of equipment with same designation used in the Contract Documents. If no designation exists, assign a designation according to ASHRAE Guideline 4, "Preparation of Operating and Maintenance Documentation for Building Systems."

1.7 OPERATION AND MAINTENANCE DOCUMENTATION DIRECTORY MANUAL

- A. Operation and Maintenance Documentation Directory: Prepare a separate manual that provides an organized reference to emergency, operation, and maintenance manuals. List items and their location to facilitate ready access to desired information. Include the following:
 1. List of Systems and Subsystems: List systems alphabetically. Include references to operation and maintenance manuals that contain information about each system.
 2. List of Equipment: List equipment for each system, organized alphabetically by system. For pieces of equipment not part of system, list alphabetically in separate list.
 3. Tables of Contents: Include a table of contents for each emergency, operation, and maintenance manual.

1.8 EMERGENCY MANUALS

- A. Emergency Manual: Assemble a complete set of emergency information indicating procedures for use by emergency personnel and by Owner's operating personnel for types of emergencies indicated.
- B. Content: Organize manual into a separate section for each of the following:
 1. Type of emergency.
 2. Emergency instructions.
 3. Emergency procedures.
- C. Type of Emergency: Where applicable for each type of emergency indicated below, include instructions and procedures for each system, subsystem, piece of equipment, and component:
 1. Fire.
 2. Flood.
 3. Gas leak.

4. Water leak.
 5. Power failure.
 6. Water outage.
 7. System, subsystem, or equipment failure.
 8. Chemical release or spill.
- D. Emergency Instructions: Describe and explain warnings, trouble indications, error messages, and similar codes and signals. Include responsibilities of Owner's operating personnel for notification of Installer, supplier, and manufacturer to maintain warranties.
- E. Emergency Procedures: Include the following, as applicable:
1. Instructions on stopping.
 2. Shutdown instructions for each type of emergency.
 3. Operating instructions for conditions outside normal operating limits.
 4. Required sequences for electric or electronic systems.
 5. Special operating instructions and procedures.

1.9 SYSTEMS AND EQUIPMENT OPERATION MANUALS

- A. Systems and Equipment Operation Manual: Assemble a complete set of data indicating operation of each system, subsystem, and piece of equipment not part of a system. Include information required for daily operation and management, operating standards, and routine and special operating procedures.
1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
 2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.
- B. Content: In addition to requirements in this Section, include operation data required in individual Specification Sections and the following information:
1. System, subsystem, and equipment descriptions. Use designations for systems and equipment indicated on Contract Documents.
 2. Performance and design criteria if Contractor has delegated design responsibility.
 3. Operating standards.
 4. Operating procedures.
 5. Operating logs.
 6. Wiring diagrams.
 7. Control diagrams.
 8. Piped system diagrams.
 9. Precautions against improper use.
 10. License requirements including inspection and renewal dates.
- C. Descriptions: Include the following:

EXHIBIT "C"
TECHNICAL SPECIFICATIONS

1. Product name and model number. Use designations for products indicated on Contract Documents.
2. Manufacturer's name.
3. Equipment identification with serial number of each component.
4. Equipment function.
5. Operating characteristics.
6. Limiting conditions.
7. Performance curves.
8. Engineering data and tests.
9. Complete nomenclature and number of replacement parts.

D. Operating Procedures: Include the following, as applicable:

1. Startup procedures.
2. Equipment or system break-in procedures.
3. Routine and normal operating instructions.
4. Regulation and control procedures.
5. Instructions on stopping.
6. Normal shutdown instructions.
7. Seasonal and weekend operating instructions.
8. Required sequences for electric or electronic systems.
9. Special operating instructions and procedures.

E. Systems and Equipment Controls: Describe the sequence of operation, and diagram controls as installed.

F. Piped Systems: Diagram piping as installed, and identify color coding where required for identification.

1.10 SYSTEMS AND EQUIPMENT MAINTENANCE MANUALS

A. Systems and Equipment Maintenance Manuals: Assemble a complete set of data indicating maintenance of each system, subsystem, and piece of equipment not part of a system. Include manufacturers' maintenance documentation, preventive maintenance procedures and frequency, repair procedures, wiring and systems diagrams, lists of spare parts, and warranty information.

1. Engage a factory-authorized service representative to assemble and prepare information for each system, subsystem, and piece of equipment not part of a system.
2. Prepare a separate manual for each system and subsystem, in the form of an instructional manual for use by Owner's operating personnel.

B. Content: For each system, subsystem, and piece of equipment not part of a system, include source information, manufacturers' maintenance documentation, maintenance procedures, maintenance and service schedules, spare parts list and source information, maintenance service contracts, and warranties and bonds as described below.

- C. Source Information: List each system, subsystem, and piece of equipment included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Manufacturers' Maintenance Documentation: Include the following information for each component part or piece of equipment:
 - 1. Standard maintenance instructions and bulletins; include only sheets pertinent to product or component installed. Mark each sheet to identify each product or component incorporated into the Work. If data include more than one item in a tabular format, identify each item using appropriate references from the Contract Documents. Identify data applicable to the Work and delete references to information not applicable.
 - a. Prepare supplementary text if manufacturers' standard printed data are not available and where the information is necessary for proper operation and maintenance of equipment or systems.
 - 2. Drawings, diagrams, and instructions required for maintenance, including disassembly and component removal, replacement, and assembly.
 - 3. Identification and nomenclature of parts and components.
 - 4. List of items recommended to be stocked as spare parts.
- E. Maintenance Procedures: Include the following information and items that detail essential maintenance procedures:
 - 1. Test and inspection instructions.
 - 2. Troubleshooting guide.
 - 3. Precautions against improper maintenance.
 - 4. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - 5. Aligning, adjusting, and checking instructions.
 - 6. Demonstration and training video recording, if available.
- F. Maintenance and Service Schedules: Include service and lubrication requirements, list of required lubricants for equipment, and separate schedules for preventive and routine maintenance and service with standard time allotment.
 - 1. Scheduled Maintenance and Service: Tabulate actions for daily, weekly, monthly, quarterly, semiannual, and annual frequencies.
 - 2. Maintenance and Service Record: Include manufacturers' forms for recording maintenance.
- G. Spare Parts List and Source Information: Include lists of replacement and repair parts, with parts identified and cross-referenced to manufacturers' maintenance documentation and local sources of maintenance materials and related services.
- H. Maintenance Service Contracts: Include copies of maintenance agreements with name and telephone number of service agent.

- I. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.
 - 1. Include procedures to follow and required notifications for warranty claims.
- J. Drawings: Prepare drawings supplementing manufacturers' printed data to illustrate the relationship of component parts of equipment and systems and to illustrate control sequence and flow diagrams. Coordinate these drawings with information contained in record Drawings to ensure correct illustration of completed installation.
 - 1. Do not use original project record documents as part of maintenance manuals.

1.11 PRODUCT MAINTENANCE MANUALS

- A. Product Maintenance Manual: Assemble a complete set of maintenance data indicating care and maintenance of each product, material, and finish incorporated into the Work.
- B. Content: Organize manual into a separate section for each product, material, and finish. Include source information, product information, maintenance procedures, repair materials and sources, and warranties and bonds, as described below.
- C. Source Information: List each product included in manual, identified by product name and arranged to match manual's table of contents. For each product, list name, address, and telephone number of Installer or supplier and maintenance service agent, and cross-reference Specification Section number and title in Project Manual and drawing or schedule designation or identifier where applicable.
- D. Product Information: Include the following, as applicable:
 - 1. Product name and model number.
 - 2. Manufacturer's name.
 - 3. Color, pattern, and texture.
 - 4. Material and chemical composition.
 - 5. Reordering information for specially manufactured products.
- E. Maintenance Procedures: Include manufacturer's written recommendations and the following:
 - 1. Inspection procedures.
 - 2. Types of cleaning agents to be used and methods of cleaning.
 - 3. List of cleaning agents and methods of cleaning detrimental to product.
 - 4. Schedule for routine cleaning and maintenance.
 - 5. Repair instructions.
- F. Repair Materials and Sources: Include lists of materials and local sources of materials and related services.
- G. Warranties and Bonds: Include copies of warranties and bonds and lists of circumstances and conditions that would affect validity of warranties or bonds.

1. Include procedures to follow and required notifications for warranty claims.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017823

SECTION 017839 - PROJECT RECORD DOCUMENTS

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for Project Record Documents, including the following:
 - 1. Record Drawings.
 - 2. Record specifications.
 - 3. Record Product Data.
 - 4. Miscellaneous record submittals.
- B. Related Requirements:
 - 1. Section 017300 "Execution" for final property survey.
 - 2. Section 017700 "Closeout Procedures" for general closeout procedures.
 - 3. Section 017823 "Operation and Maintenance Data" for operation and maintenance manual requirements.

1.3 CLOSEOUT SUBMITTALS

- A. Record Drawings: Comply with the following:
 - 1. Number of Copies: Submit one set of marked-up record prints.
 - 2. Number of Copies: Submit copies of Record Drawings as follows:
 - a. Initial Submittal:
 - 1) Submit one paper-copy set(s) of marked-up record prints.
 - 2) Submit PDF electronic files of scanned record prints and one set of file prints.
 - 3) Architect will indicate whether general scope of changes, additional information recorded, and quality of drafting are acceptable.
 - b. Final Submittal:
 - 1) Submit three paper-copy sets of marked-up record prints.
 - 2) Submit PDF electronic files of scanned Record Prints and three sets of file prints.
 - 3) Print each drawing, whether or not changes and additional information were recorded.

- B. Record Specifications: Submit annotated PDF electronic files and paper copies of Project's Specifications, including addenda and Contract modifications.
- C. Record Product Data: Submit annotated PDF electronic files and directories and number paper copies of each submittal.
 - 1. Where record Product Data are required as part of operation and maintenance manuals, submit duplicate marked-up Product Data as a component of manual.
- D. Miscellaneous Record Submittals: See other Specification Sections for miscellaneous record-keeping requirements and submittals in connection with various construction activities. Submit annotated PDF electronic files and directories and two paper copies of each submittal.

1.4 RECORD DRAWINGS

- A. Record Prints: Maintain one set of marked-up paper copies of the Contract Drawings and Shop Drawings, incorporating new and revised drawings as modifications are issued.
 - 1. Preparation: Mark record prints to show the actual installation, where installation varies from that shown originally. Require individual or entity who obtained record data, whether individual or entity is Installer, subcontractor, or similar entity, to provide information for preparation of corresponding marked-up record prints.
 - a. Give particular attention to information on concealed elements that would be difficult to identify or measure and record later.
 - b. Accurately record information in an acceptable drawing technique.
 - c. Record data as soon as possible after obtaining it.
 - d. Record and check the markup before enclosing concealed installations.
 - e. Cross-reference record prints to corresponding photographic documentation.
 - 2. Content: Types of items requiring marking include, but are not limited to, the following:
 - a. Dimensional changes to Drawings.
 - b. Revisions to details shown on Drawings.
 - c. Depths of foundations.
 - d. Locations and depths of underground utilities.
 - e. Revisions to routing of piping and conduits.
 - f. Revisions to electrical circuitry.
 - g. Actual equipment locations.
 - h. Duct size and routing.
 - i. Locations of concealed internal utilities.
 - j. Changes made by Change Order or Construction Change Directive.
 - k. Changes made following Architect's written orders.
 - l. Details not on the original Contract Drawings.
 - m. Field records for variable and concealed conditions.
 - n. Record information on the Work that is shown only schematically.

3. Mark the Contract Drawings and Shop Drawings completely and accurately. Use personnel proficient at recording graphic information in production of marked-up record prints.
 4. Mark record prints with erasable, red-colored pencil. Use other colors to distinguish between changes for different categories of the Work at same location.
 5. Mark important additional information that was either shown schematically or omitted from original Drawings.
 6. Note Construction Change Directive numbers, alternate numbers, Change Order numbers, and similar identification, where applicable.
- B. Record Digital Data Files: Immediately before inspection for Certificate of Substantial Completion, review marked-up record prints with Architect. When authorized, prepare a full set of corrected digital data files of the Contract Drawings, as follows:
1. Format: Same digital data software program, version, and operating system as for the original Contract Drawings.
 2. Format: **[DWG] [DXF] [DGN]**, Version <Insert designation>, **[Microsoft Windows] [Apple Macintosh]** operating system.
 3. Format: Annotated PDF electronic file[**with comment function enabled**].
 4. Incorporate changes and additional information previously marked on record prints. Delete, redraw, and add details and notations where applicable.
 5. Refer instances of uncertainty to Architect[**through Construction Manager**] for resolution.
 6. Architect will furnish Contractor with one set of digital data files of the Contract Drawings for use in recording information.
 - a. See Section 013100 "Project Management and Coordination" for requirements related to use of Architect's digital data files.
 - b. Architect will provide data file layer information. Record markups in separate layers.
- C. Format: Identify and date each Record Drawing; include the designation "PROJECT RECORD DRAWING" in a prominent location.
1. Record Prints: Organize record prints into manageable sets. Bind each set with durable paper cover sheets. Include identification on cover sheets.
 2. Format: Annotated PDF electronic file[**with comment function enabled**].
 3. Record Digital Data Files: Organize digital data information into separate electronic files that correspond to each sheet of the Contract Drawings. Name each file with the sheet identification. Include identification in each digital data file.
 4. Identification: As follows:
 - a. Project name.
 - b. Date.
 - c. Designation "PROJECT RECORD DRAWINGS."
 - d. Name of Architect.
 - e. Name of Contractor.

1.5 RECORD SPECIFICATIONS

- A. Preparation: Mark Specifications to indicate the actual product installation, where installation varies from that indicated in Specifications, addenda, and Contract modifications.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Mark copy with the proprietary name and model number of products, materials, and equipment furnished, including substitutions and product options selected.
 - 3. Record the name of manufacturer, supplier, Installer, and other information necessary to provide a record of selections made.
 - 4. For each principal product, indicate whether Record Product Data has been submitted in operation and maintenance manuals instead of submitted as Record Product Data.
 - 5. Note related Change Orders, Record Product Data, and Record Drawings where applicable.
- B. Format: Submit record specifications as paper copy or scanned PDF electronic file(s) of marked-up paper copy of Specifications.

1.6 RECORD PRODUCT DATA

- A. Recording: Maintain one copy of each submittal during the construction period for Project Record Document purposes. Post changes and revisions to Project Record Documents as they occur; do not wait until end of Project.
- B. Preparation: Mark Product Data to indicate the actual product installation where installation varies substantially from that indicated in Product Data submittal.
 - 1. Give particular attention to information on concealed products and installations that cannot be readily identified and recorded later.
 - 2. Include significant changes in the product delivered to Project site and changes in manufacturer's written instructions for installation.
 - 3. Note related Change Orders, Record Specifications, and Record Drawings where applicable.
- C. Format: Submit Record Product Data as paper copy or scanned PDF electronic file(s) of marked-up paper copy of Product Data.
 - 1. Include Record Product Data directory organized by Specification Section number and title, electronically linked to each item of Record Product Data.

1.7 MISCELLANEOUS RECORD SUBMITTALS

- A. Assemble miscellaneous records required by other Specification Sections for miscellaneous record keeping and submittal in connection with actual performance of the Work. Bind or file miscellaneous records and identify each, ready for continued use and reference.

- B. Format: Submit miscellaneous record submittals as PDF electronic file or paper copy of marked-up miscellaneous record submittals.
 - 1. Include miscellaneous record submittals directory organized by Specification Section number and title, electronically linked to each item of miscellaneous record submittals.

1.8 MAINTENANCE OF RECORD DOCUMENTS

- A. Maintenance of Record Documents: Store Record Documents in the field office apart from the Contract Documents used for construction. Do not use Project Record Documents for construction purposes. Maintain Record Documents in good order and in a clean, dry, legible condition, protected from deterioration and loss. Provide access to Project Record Documents for Architect's reference during normal working hours.

PART 2 - PRODUCTS (Not Used)

PART 3 - EXECUTION (Not Used)

END OF SECTION 017839

SECTION 017900 - DEMONSTRATION AND TRAINING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes administrative and procedural requirements for instructing Owner's personnel, including the following:
 - 1. Instruction in operation and maintenance of systems, subsystems, and equipment.
 - 2. Demonstration and training video recordings.

1.3 INFORMATIONAL SUBMITTALS

- A. Instruction Program: Submit outline of instructional program for demonstration and training, including a list of training modules and a schedule of proposed dates, times, length of instruction time, and instructors' names for each training module. Include learning objective and outline for each training module.
 - 1. Indicate proposed training modules using manufacturer-produced demonstration and training video recordings for systems, equipment, and products in lieu of video recording of live instructional module.
- B. Qualification Data: For instructor and videographer.
- C. Attendance Record: For each training module, submit list of participants and length of instruction time.
- D. Evaluations: For each participant and for each training module, submit results and documentation of performance-based test.

1.4 CLOSEOUT SUBMITTALS

- A. Demonstration and Training Video Recordings: Submit two copies within seven days of end of each training module.
 - 1. Identification: On each copy, provide an applied label with the following information:

- a. Name of Project.
 - b. Name and address of videographer.
 - c. Name of Architect.
 - d. Name of Contractor.
 - e. Date of video recording.
2. Transcript: Prepared and bound in format matching operation and maintenance manuals. Mark appropriate identification on front and spine of each binder. Include a cover sheet with same label information as the corresponding video recording. Include name of Project and date of video recording on each page.
 3. At completion of training, submit complete training manual(s) for Owner's use prepared in same paper and PDF file format required for operation and maintenance manuals specified in Section 017823 "Operation and Maintenance Data."

1.5 QUALITY ASSURANCE

- A. Facilitator Qualifications: A firm or individual experienced in training or educating maintenance personnel in a training program similar in content and extent to that indicated for this Project, and whose work has resulted in training or education with a record of successful learning performance.
- B. Instructor Qualifications: A factory-authorized service representative, complying with requirements in Section 014000 "Quality Requirements," experienced in operation and maintenance procedures and training.
- C. Videographer Qualifications: A professional videographer who is experienced photographing demonstration and training events similar to those required.
- D. Preinstruction Conference: Conduct conference at Project site to comply with requirements in Section 013100 "Project Management and Coordination." Review methods and procedures related to demonstration and training including, but not limited to, the following:
 1. Inspect and discuss locations and other facilities required for instruction.
 2. Review and finalize instruction schedule and verify availability of educational materials, instructors' personnel, audiovisual equipment, and facilities needed to avoid delays.
 3. Review required content of instruction.
 4. For instruction that must occur outside, review weather and forecasted weather conditions and procedures to follow if conditions are unfavorable.

1.6 COORDINATION

- A. Coordinate instruction schedule with Owner's operations. Adjust schedule as required to minimize disrupting Owner's operations and to ensure availability of Owner's personnel.

- B. Coordinate instructors, including providing notification of dates, times, length of instruction time, and course content.
- C. Coordinate content of training modules with content of approved emergency, operation, and maintenance manuals. Do not submit instruction program until operation and maintenance data have been reviewed and approved by Architect.

1.7 INSTRUCTION PROGRAM

- A. Program Structure: Develop an instruction program that includes individual training modules for each system and for equipment not part of a system, as required by individual Specification Sections.
- B. Training Modules: Develop a learning objective and teaching outline for each module. Include a description of specific skills and knowledge that participant is expected to master. For each module, include instruction for the following as applicable to the system, equipment, or component:
 - 1. Basis of System Design, Operational Requirements, and Criteria: Include the following:
 - a. System, subsystem, and equipment descriptions.
 - b. Performance and design criteria if Contractor is delegated design responsibility.
 - c. Operating standards.
 - d. Regulatory requirements.
 - e. Equipment function.
 - f. Operating characteristics.
 - g. Limiting conditions.
 - h. Performance curves.
 - 2. Documentation: Review the following items in detail:
 - a. Emergency manuals.
 - b. Systems and equipment operation manuals.
 - c. Systems and equipment maintenance manuals.
 - d. Product maintenance manuals.
 - e. Project Record Documents.
 - f. Identification systems.
 - g. Warranties and bonds.
 - h. Maintenance service agreements and similar continuing commitments.
 - 3. Emergencies: Include the following, as applicable:
 - a. Instructions on meaning of warnings, trouble indications, and error messages.
 - b. Instructions on stopping.
 - c. Shutdown instructions for each type of emergency.
 - d. Operating instructions for conditions outside of normal operating limits.
 - e. Sequences for electric or electronic systems.

- f. Special operating instructions and procedures.
4. Operations: Include the following, as applicable:
- a. Startup procedures.
 - b. Equipment or system break-in procedures.
 - c. Routine and normal operating instructions.
 - d. Regulation and control procedures.
 - e. Control sequences.
 - f. Safety procedures.
 - g. Instructions on stopping.
 - h. Normal shutdown instructions.
 - i. Operating procedures for emergencies.
 - j. Operating procedures for system, subsystem, or equipment failure.
 - k. Seasonal and weekend operating instructions.
 - l. Required sequences for electric or electronic systems.
 - m. Special operating instructions and procedures.
5. Adjustments: Include the following:
- a. Alignments.
 - b. Checking adjustments.
 - c. Noise and vibration adjustments.
 - d. Economy and efficiency adjustments.
6. Troubleshooting: Include the following:
- a. Diagnostic instructions.
 - b. Test and inspection procedures.
7. Maintenance: Include the following:
- a. Inspection procedures.
 - b. Types of cleaning agents to be used and methods of cleaning.
 - c. List of cleaning agents and methods of cleaning detrimental to product.
 - d. Procedures for routine cleaning.
 - e. Procedures for preventive maintenance.
 - f. Procedures for routine maintenance.
 - g. Instruction on use of special tools.
8. Repairs: Include the following:
- a. Diagnosis instructions.
 - b. Repair instructions.
 - c. Disassembly; component removal, repair, and replacement; and reassembly instructions.
 - d. Instructions for identifying parts and components.
 - e. Review of spare parts needed for operation and maintenance.

1.8 PREPARATION

- A. Assemble educational materials necessary for instruction, including documentation and training module. Assemble training modules into a training manual organized in coordination with requirements in Section 017823 "Operation and Maintenance Data."
- B. Set up instructional equipment at instruction location.

1.9 INSTRUCTION

- A. Facilitator: Engage a qualified facilitator to prepare instruction program and training modules, to coordinate instructors, and to coordinate between Contractor and Owner for number of participants, instruction times, and location.
- B. Engage qualified instructors to instruct Owner's personnel to adjust, operate, and maintain systems, subsystems, and equipment not part of a system.
- C. Scheduling: Provide instruction at mutually agreed-on times. For equipment that requires seasonal operation, provide similar instruction at start of each season.
 - 1. Schedule training with Owner, through Architect, with at least seven days' advance notice.
- D. Training Location and Reference Material: Conduct training on-site in the completed and fully operational facility using the actual equipment in-place. Conduct training using final operation and maintenance data submittals.
- E. Evaluation: At conclusion of each training module, assess and document each participant's mastery of module by use of demonstration performance-based test.
- F. Cleanup: Collect used and leftover educational materials and give to Owner. Remove instructional equipment. Restore systems and equipment to condition existing before initial training use.

1.10 DEMONSTRATION AND TRAINING VIDEO RECORDINGS

- A. General: Engage a qualified commercial videographer to record demonstration and training video recordings. Record each training module separately. Include classroom instructions and demonstrations, board diagrams, and other visual aids, but not student practice.
 - 1. At beginning of each training module, record each chart containing learning objective and lesson outline.
- B. Digital Video Recordings: Provide high-resolution, digital video in MPEG format, produced by a digital camera with minimum sensor resolution of 12 megapixels and capable of recording in full HD mode with vibration reduction technology.
 - 1. Submit video recordings on CD-ROM or thumb drive.

2. File Hierarchy: Organize folder structure and file locations according to Project Manual table of contents. Provide complete screen-based menu.
 3. File Names: Utilize file names based on name of equipment generally described in video segment, as identified in Project specifications.
 4. Contractor and Installer Contact File: Using appropriate software, create a file for inclusion on the equipment demonstration and training recording that describes the following for each Contractor involved on the Project, arranged according to Project Manual table of contents:
 - a. Name of Contractor/Installer.
 - b. Business address.
 - c. Business phone number.
 - d. Point of contact.
 - e. Email address.
- C. Recording: Mount camera on tripod before starting recording, unless otherwise necessary to adequately cover area of demonstration and training. Display continuous running time.
1. Film training session(s) in segments not to exceed 15 minutes.
 - a. Produce segments to present a single significant piece of equipment per segment.
 - b. Organize segments with multiple pieces of equipment to follow order of Project Manual table of contents.
 - c. Where a training session on a particular piece of equipment exceeds 15 minutes, stop filming and pause training session. Begin training session again upon commencement of new filming segment.
- D. Light Levels: Verify light levels are adequate to properly light equipment. Verify equipment markings are clearly visible prior to recording.
1. Furnish additional portable lighting as required.
- E. Narration: Describe scenes on video recording by audio narration by microphone or dubbing audio narration off-site after video recording is recorded. Include description of items being viewed.
- F. Transcript: Provide a transcript of the narration. Display images and running time captured from videotape opposite the corresponding narration segment.
- G. Preproduced Video Recordings: Provide video recordings used as a component of training modules in same format as recordings of live training.

PART 2 - PRODUCTS

PART 3 - EXECUTION

END OF SECTION 017900

SECTION 024119 - SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Demolition and removal of selected portions of building or structure.

- B. Related Requirements:

- 1. Section 011000 "Summary" for restrictions on use of the premises, Owner-occupancy requirements, and phasing requirements.
 - 2. Section 017300 "Execution" for cutting and patching procedures.

1.3 DEFINITIONS

- A. Remove: Detach items from existing construction and dispose of them off-site unless indicated to be salvaged or reinstalled.
- B. Remove and Reinstall: Detach items from existing construction, in a manner to prevent damage, prepare for reuse, and reinstall where indicated.
- C. Existing to Remain: Leave existing items that are not to be removed and that are not otherwise indicated to be salvaged or reinstalled.
- D. Dismantle: To remove by disassembling or detaching an item from a surface, using gentle methods and equipment to prevent damage to the item and surfaces; disposing of items unless indicated to be salvaged or reinstalled.

1.4 MATERIALS OWNERSHIP

- A. Unless otherwise indicated, demolition waste becomes property of Contractor.
- B. Historic items, relics, antiques, and similar objects including, but not limited to, cornerstones and their contents, commemorative plaques and tablets, and other items of interest or value to Owner that may be uncovered during demolition remain the property of Owner.

1. Carefully salvage in a manner to prevent damage and promptly return to Owner.

1.5 PREINSTALLATION MEETINGS

A. Predemolition Conference: Conduct conference at Project site

1. Inspect and discuss condition of construction to be selectively demolished.
2. Review structural load limitations of existing structure.
3. Review and finalize selective demolition schedule and verify availability of materials, demolition personnel, equipment, and facilities needed to make progress and avoid delays.
4. Review areas where existing construction is to remain and requires protection.

1.6 INFORMATIONAL SUBMITTALS

A. Qualification Data: For refrigerant recovery technician.

B. Engineering Survey: Submit engineering survey of condition of building.

C. Proposed Protection Measures: Submit report, including Drawings, that indicates the measures proposed for protecting individuals and property, for environmental protection, and for dust control. Indicate proposed locations and construction of barriers.

D. Schedule of Selective Demolition Activities: Indicate the following:

1. Detailed sequence of selective demolition and removal work, with starting and ending dates for each activity. Ensure Owner's building manager's on-site operations are uninterrupted.
2. Interruption of utility services. Indicate how long utility services will be interrupted.
3. Coordination for shutoff, capping, and continuation of utility services.
4. Coordination of Owner's continuing occupancy of portions of existing building and of Owner's partial occupancy of completed Work.

E. Predemolition Photographs or Video: Show existing conditions of adjoining construction, including finish surfaces, that might be misconstrued as damage caused by demolition operations. Comply with Section 013233 "Photographic Documentation." Submit before Work begins.

F. Statement of Refrigerant Recovery: Signed by refrigerant recovery technician responsible for recovering refrigerant, stating that all refrigerant that was present was recovered and that recovery was performed according to EPA regulations. Include name and address of technician and date refrigerant was recovered.

G. Warranties: Documentation indicating that existing warranties are still in effect after completion of selective demolition.

1.7 CLOSEOUT SUBMITTALS

- A. Inventory: Submit a list of items that have been removed and salvaged.

1.8 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.9 FIELD CONDITIONS

- A. Owner will occupy portions of building immediately adjacent to selective demolition area. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Conditions existing at time of inspection for bidding purpose will be maintained by Owner as far as practical.
 - 1. Before selective demolition, Owner will remove the following items:
 - a. **<Insert items to be removed by Owner>.**
- C. Notify Architect of discrepancies between existing conditions and Drawings before proceeding with selective demolition.
- D. Hazardous Materials: It is not expected that hazardous materials will be encountered in the Work.
 - 1. Hazardous materials will be removed by Owner before start of the Work.
 - 2. If suspected hazardous materials are encountered, do not disturb; immediately notify Architect and Owner. Hazardous materials will be removed by Owner under a separate contract.
- E. Storage or sale of removed items or materials on-site is not permitted.
- F. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.
 - 1. Maintain fire-protection facilities in service during selective demolition operations.

1.10 COORDINATION

- A. Arrange selective demolition schedule so as not to interfere with Owner's operations.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Regulatory Requirements: Comply with governing EPA notification regulations before beginning selective demolition. Comply with hauling and disposal regulations of authorities having jurisdiction.
- B. Standards: Comply with ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities have been disconnected and capped before starting selective demolition operations.
- B. Review Project Record Documents of existing construction or other existing condition and hazardous material information provided by Owner. Owner does not guarantee that existing conditions are same as those indicated in Project Record Documents.
- C. Verify that hazardous materials have been remediated before proceeding with building demolition operations.
- D. Survey of Existing Conditions: Record existing conditions by use of preconstruction photographs or video.
 - 1. Comply with requirements specified in Section 013233 "Photographic Documentation."
 - 2. Inventory and record the condition of items to be removed and salvaged. Provide photographs or video of conditions that might be misconstrued as damage caused by salvage operations.
 - 3. Before selective demolition or removal of existing building elements that will be reproduced or duplicated in final Work, make permanent record of measurements, materials, and construction details required to make exact reproduction.

3.2 PREPARATION

- A. Refrigerant: Before starting demolition, remove refrigerant from mechanical equipment according to 40 CFR 82 and regulations of authorities having jurisdiction.

3.3 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

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

3.4 PROTECTION

- A. Temporary Protection: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.
 - 1. Provide protection to ensure safe passage of people around selective demolition area and to and from occupied portions of building.
 - 2. Provide temporary weather protection, during interval between selective demolition of existing construction on exterior surfaces and new construction, to prevent water leakage and damage to structure and interior areas.
 - 3. Protect walls, ceilings, floors, and other existing finish work that are to remain or that are exposed during selective demolition operations.
 - 4. Cover and protect furniture, furnishings, and equipment that have not been removed.
 - 5. Comply with requirements for temporary enclosures, dust control, heating, and cooling specified in Section 015000 "Temporary Facilities and Controls."

- B. Temporary Shoring: Design, provide, and maintain shoring, bracing, and structural supports as required to preserve stability and prevent movement, settlement, or collapse of construction and finishes to remain, and to prevent unexpected or uncontrolled movement or collapse of construction being demolished.
 - 1. Strengthen or add new supports when required during progress of selective demolition.

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

3.5 SELECTIVE DEMOLITION, GENERAL

- A. General: Demolish and remove existing construction only to the extent required by new construction and as indicated. Use methods required to complete the Work within limitations of governing regulations and as follows:
 - 1. Proceed with selective demolition systematically, from higher to lower level.
 - 2. Neatly cut openings and holes plumb, square, and true to dimensions required. Use cutting methods least likely to damage construction to remain or adjoining construction. Use hand tools or small power tools designed for sawing or grinding, not hammering and chopping. Temporarily cover openings to remain.
 - 3. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 4. Do not use cutting torches until work area is cleared of flammable materials. At concealed spaces, such as duct and pipe interiors, verify condition and contents of hidden space before starting flame-cutting operations. Maintain portable fire-suppression devices during flame-cutting operations.
 - 5. Remove decayed, vermin-infested, or otherwise dangerous or unsuitable materials and promptly dispose of off-site.
 - 6. Remove structural framing members and lower to ground by method suitable to avoid free fall and to prevent ground impact or dust generation.
 - 7. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.

8. Dispose of demolished items and materials promptly. Comply with requirements in Section 017419 "Construction Waste Management and Disposal."
- B. Site Access and Temporary Controls: Conduct selective demolition and debris-removal operations to ensure minimum interference with roads, streets, walks, walkways, and other adjacent occupied and used facilities.
 - C. Removed and Salvaged Items:
 1. Clean salvaged items.
 2. Pack or crate items after cleaning. Identify contents of containers.
 3. Store items in a secure area until delivery to Owner.
 4. Transport items to Owner's storage area designated by Owner.
 5. Protect items from damage during transport and storage.
 - D. Removed and Reinstalled Items:
 1. Clean and repair items to functional condition adequate for intended reuse.
 2. Pack or crate items after cleaning and repairing. Identify contents of containers.
 3. Protect items from damage during transport and storage.
 4. Reinstall items in locations indicated. Comply with installation requirements for new materials and equipment. Provide connections, supports, and miscellaneous materials necessary to make item functional for use indicated.
 - E. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition. When permitted by Architect, items may be removed to a suitable, protected storage location during selective demolition and reinstalled in their original locations after selective demolition operations are complete.

3.6 SELECTIVE DEMOLITION PROCEDURES FOR SPECIFIC MATERIALS

- A. Roofing: Remove no more existing roofing than what can be covered in one day by new roofing and so that building interior remains watertight and weathertight. See Section **<Insert Section number and title>** for new roofing requirements.
 1. Remove existing roof membrane, flashings, copings, and roof accessories.
 2. Remove existing roofing system down to substrate.

3.7 DISPOSAL OF DEMOLISHED MATERIALS

- A. Remove demolition waste materials from Project site and recycle or dispose of them according to Section 017419 "Construction Waste Management and Disposal."
 1. Do not allow demolished materials to accumulate on-site.
 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 3. Comply with requirements specified in Section 017419 "Construction Waste Management and Disposal."

- B. Burning: Do not burn demolished materials.

3.8 CLEANING

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

END OF SECTION 024119

SECTION 031000 - CONCRETE FORMING AND ACCESSORIES

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Form-facing material for cast-in-place concrete.
 - 2. Shoring, bracing, and anchoring.

1.3 DEFINITIONS

- A. Form-Facing Material: Temporary structure or mold for the support of concrete while the concrete is setting and gaining sufficient strength to be self-supporting.
- B. Formwork: The total system of support of freshly placed concrete, including the mold or sheathing that contacts the concrete, as well as supporting members, hardware, and necessary bracing.

1.4 ACTION SUBMITTALS

- A. Product Data: For each of the following:
 - 1. Forms for cylindrical columns
 - 2. Form ties.
- B. Shop Drawings: Prepared by, and signed and sealed by, a qualified professional engineer responsible for their preparation, detailing fabrication, assembly, and support of forms.

1.5 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For testing and inspection agency.
- B. Research Reports: For insulating concrete forms indicating compliance with International Code Council Acceptance Criteria AC308.
- C. Field quality-control reports.

1.6 QUALITY ASSURANCE

- A. Testing and Inspection Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. Concrete Formwork: Design, engineer, erect, shore, brace, and maintain formwork, shores, and reshores in accordance with ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads, so that resulting concrete conforms to the required shapes, lines, and dimensions.
 - 1. Design wood panel forms in accordance with APA's "Concrete Forming Design/Construction Guide."
 - 2. Design formwork to limit deflection of form-facing material to 1/240 of center-to-center spacing of supports.
 - a. For architectural concrete specified in Section 033300 "Architectural Concrete," limit deflection of form-facing material, studs, and walers to 0.0025 times their respective clear spans (L/400).
- B. Design, engineer, erect, shore, brace, and maintain insulating concrete forms in accordance with ACI 301, to support vertical, lateral, static, and dynamic loads, and construction loads that might be applied, until structure can support such loads, so that resulting concrete conforms to the required shapes, lines, and dimensions.
 - 1. Design cross ties to transfer the effects of the following loads to the cast-in-place concrete core:
 - a. Wind Loads: As indicated on Drawings.
 - 1) Horizontal Deflection Limit: Not more than 1/360 of the wall height.

2.2 FORM-FACING MATERIALS

- A. Forms for Cylindrical Columns, Pedestals, and Supports: Metal, glass-fiber-reinforced plastic, paper, or fiber tubes that produce surfaces not exceeding specified formwork surface class.
 - 1. Provide forms with sufficient wall thickness to resist plastic concrete loads without detrimental deformation.

PART 3 - EXECUTION

3.1 INSTALLATION OF FORMWORK

- A. Comply with ACI 301.
- B. Construct formwork, so concrete members and structures are of size, shape, alignment, elevation, and position indicated, within tolerance limits of ACI 117 and to comply with the Surface Finish designations specified in Section 033000 "Cast-In-Place Concrete" for as-cast finishes.
- C. Limit concrete surface irregularities as follows:
 - 1. Surface Finish-2.0: ACI 117 Class B, 1/4 inch
- D. Chamfer exterior corners and edges of permanently exposed concrete.
- E. Clean forms and adjacent surfaces to receive concrete. Remove chips, wood, sawdust, dirt, and other debris just before placing concrete.

3.2 INSTALLATION OF EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining work that is attached to or supported by cast-in-place concrete.
 - 1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 - 2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of AISC 303.
 - 3. Clean embedded items immediately prior to concrete placement.

3.3 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a qualified testing and inspecting agency to perform field tests and inspections and prepare test reports.
- B. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
- C. Inspections:
 - 1. Inspect formwork for shape, location, and dimensions of the concrete member being formed.

END OF SECTION 031000

SECTION 032000 - CONCRETE REINFORCING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Steel reinforcement bars.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Each type of steel reinforcement.
 - 2. Zinc repair material.
 - 3. Bar supports.
- B. Shop Drawings: Comply with ACI SP-066:
 - 1. Include placing drawings that detail fabrication, bending, and placement.
 - 2. Include bar sizes, lengths, materials, grades, bar schedules, stirrup spacing, bent bar diagrams, bar arrangement, location of splices, lengths of lap splices, details of mechanical splice couplers, details of welding splices, tie spacing, hoop spacing, and supports for concrete reinforcement.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Statements: For testing and inspection agency.
- B. Material Test Reports: For the following, from a qualified testing agency:
 - 1. Steel Reinforcement:
- C. Field quality-control reports.

1.5 QUALITY ASSURANCE

- A. Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Steel Reinforcement: Deliver, store, and handle steel reinforcement to prevent bending and damage and to avoid damaging coatings on steel reinforcement.
 - 1. Store reinforcement to avoid contact with earth.
 - 2. Do not allow dual-coated reinforcement to be stored outdoors for more than 60 days without being stored under an opaque covering.

PART 2 - PRODUCTS

2.1 STEEL REINFORCEMENT

- A. Galvanized Reinforcing Bars:
 - 1. Steel Bars: ASTM A615, Grade 60 deformed bars.
 - 2. Zinc Coating: ASTM A767, zinc coated after fabrication and bending.
- B. Galvanized-Steel Welded-Wire Reinforcement: ASTM A1064, plain, fabricated from galvanized-steel wire into flat sheets.

2.2 REINFORCEMENT ACCESSORIES

- A. Bar Supports: Bolsters, chairs, spacers, and other devices for spacing, supporting, and fastening reinforcing bars and welded-wire reinforcement in place.
 - 1. Manufacture bar supports from steel wire, plastic, or precast concrete in accordance with CRSI's "Manual of Standard Practice," of greater compressive strength than concrete and as follows:
 - a. For zinc-coated reinforcement, use galvanized wire or dielectric-polymer-coated wire bar supports.
- B. Steel Tie Wire: ASTM A1064, annealed steel, not less than 0.0508 inch in diameter.
 - 1. Finish: Galvanized
- C. Zinc Repair Material: ASTM A780.

2.3 FABRICATING REINFORCEMENT

- A. Fabricate steel reinforcement according to CRSI's "Manual of Standard Practice."

PART 3 - EXECUTION

3.1 PREPARATION

- A. Protection of In-Place Conditions:
 - 1. Do not cut or puncture vapor retarder.
 - 2. Repair damage and reseal vapor retarder before placing concrete.
- B. Clean reinforcement of loose rust and mill scale, earth, ice, and other foreign materials that reduce bond to concrete.

3.2 INSTALLATION OF STEEL REINFORCEMENT

- A. Comply with CRSI's "Manual of Standard Practice" for placing and supporting reinforcement.
- B. Accurately position, support, and secure reinforcement against displacement.
 - 1. Locate and support reinforcement with bar supports to maintain minimum concrete cover.
 - 2. Do not tack weld crossing reinforcing bars.
- C. Preserve clearance between bars of not less than 1 inch, not less than one bar diameter, or not less than 1-1/3 times size of large aggregate, whichever is greater.
- D. Provide concrete coverage in accordance with ACI 318.
- E. Set wire ties with ends directed into concrete, not toward exposed concrete surfaces.
- F. Zinc-Coated Reinforcement: Repair cut and damaged zinc coatings with zinc repair material in accordance with ASTM A780.

3.3 INSTALLATION TOLERANCES

- A. Comply with ACI 117

3.4 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
- B. Inspections:
 - 1. Steel-reinforcement placement.

END OF SECTION 032000

SECTION 033000 - CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Cast-in-place concrete, including concrete materials, mixture design, placement procedures, and finishes.

- B. Related Requirements:

- 1. Section 031000 "Concrete Forming and Accessories" for form-facing materials, form liners, and waterstops.
 - 2. Section 032000 "Concrete Reinforcing" for steel reinforcing bars

1.3 DEFINITIONS

- A. Cementitious Materials: Portland cement alone or in combination with one or more of the following: blended hydraulic cement, fly ash, slag cement, other pozzolans, and silica fume; materials subject to compliance with requirements.

- B. Water/Cement Ratio (w/cm): The ratio by weight of water to cementitious materials.

1.4 ACTION SUBMITTALS

- A. Product Data: For each of the following.

- 1. Portland cement.
 - 2. Fly ash.
 - 3. Slag cement.
 - 4. Blended hydraulic cement.
 - 5. Silica fume.
 - 6. Performance-based hydraulic cement
 - 7. Aggregates.
 - 8. Admixtures:

- a. Include limitations of use, including restrictions on cementitious materials, supplementary cementitious materials, air entrainment, aggregates,

temperature at time of concrete placement, relative humidity at time of concrete placement, curing conditions, and use of other admixtures.

9. Vapor retarders.
10. Curing materials.
11. Repair materials.

B. Design Mixtures: For each concrete mixture, include the following:

1. Mixture identification.
2. Minimum 28-day compressive strength.
3. Durability exposure class.
4. Maximum w/cm.
5. Calculated equilibrium unit weight, for lightweight concrete.
6. Slump limit.
7. Air content.
8. Nominal maximum aggregate size.
9. Indicate amounts of mixing water to be withheld for later addition at Project site if permitted.
10. Include manufacturer's certification that permeability-reducing admixture is compatible with mix design.
11. Include certification that dosage rate for permeability-reducing admixture matches dosage rate used in performance compliance test.
12. Intended placement method.
13. Submit alternate design mixtures when characteristics of materials, Project conditions, weather, test results, or other circumstances warrant adjustments.

C. Concrete Schedule: For each location of each Class of concrete indicated in "Concrete Mixtures" Article, including the following:

1. Concrete Class designation.
2. Location within Project.
3. Exposure Class designation.
4. Formed Surface Finish designation and final finish.
5. Curing process.

1.5 INFORMATIONAL SUBMITTALS

A. Qualification Data: For the following:

1. Installer: Include copies of applicable ACI certificates.
2. Ready-mixed concrete manufacturer.
3. Testing agency: Include copies of applicable ACI certificates.

B. Material Certificates: For each of the following, signed by manufacturers:

1. Cementitious materials.
2. Admixtures.
3. Curing compounds.
4. Vapor retarders.
5. Repair materials.

C. Material Test Reports: For the following, from a qualified testing agency:

1. Portland cement.
2. Fly ash.
3. Slag cement.
4. Blended hydraulic cement.
5. Silica fume.
6. Performance-based hydraulic cement.
7. Aggregates.
8. Admixtures:
 - a. Permeability-Reducing Admixture: Include independent test reports, indicating compliance with specified requirements, including dosage rate used in test.

D. Research Reports:

1. For concrete admixtures in accordance with ICC's Acceptance Criteria AC198.

E. Preconstruction Test Reports: For each mix design.

F. Field quality-control reports.

1.6 QUALITY ASSURANCE

A. Installer Qualifications: A qualified installer who employs Project personnel qualified as an ACI-certified Flatwork Technician and Finisher and a supervisor who is a certified ACI Flatwork Concrete Finisher/Technician or an ACI Concrete Flatwork Technician with experience installing and finishing concrete, incorporating permeability-reducing admixtures.

1. Post-Installed Concrete Anchors Installers: ACI-certified Adhesive Anchor Installer.

B. Ready-Mixed Concrete Manufacturer Qualifications: A firm experienced in manufacturing ready-mixed concrete products and that complies with ASTM C94 requirements for production facilities and equipment.

1. Manufacturer certified in accordance with NRMCA's "Certification of Ready Mixed Concrete Production Facilities."

C. Laboratory Testing Agency Qualifications: A testing agency qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated and employing an ACI-certified Concrete Quality Control Technical Manager.

1. Personnel performing laboratory tests shall be an ACI-certified Concrete Strength Testing Technician and Concrete Laboratory Testing Technician, Grade I. Testing agency laboratory supervisor shall be an ACI-certified Concrete Laboratory Testing Technician, Grade II.

- D. Field Quality Control Testing Agency Qualifications: An independent agency, acceptable to authorities having jurisdiction, qualified in accordance with ASTM C1077 and ASTM E329 for testing indicated.
1. Personnel conducting field tests shall be qualified as an ACI Concrete Field Testing Technician, Grade 1, in accordance with ACI CPP 610.1 or an equivalent certification program.

1.7 PRECONSTRUCTION TESTING

- A. Preconstruction Testing Service: Engage a qualified testing agency to perform preconstruction testing on each concrete mixture.
1. Include the following information in each test report:
 - a. Admixture dosage rates.
 - b. Slump.
 - c. Air content.
 - d. Seven-day compressive strength.
 - e. 28-day compressive strength.
 - f. Permeability.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Comply with ASTM C94 and ACI 301.

1.9 FIELD CONDITIONS

- A. Cold-Weather Placement: Comply with ACI 301 and ACI 306.1 and as follows.
1. Protect concrete work from physical damage or reduced strength that could be caused by frost, freezing actions, or low temperatures.
 2. When average high and low temperature is expected to fall below 40 deg F for three successive days, maintain delivered concrete mixture temperature within the temperature range required by ACI 301.
 3. Do not use frozen materials.
 4. Do not place concrete in contact with surfaces less than 35 deg F, other than reinforcing steel.
 5. Do not use calcium chloride, salt, or other materials containing antifreeze agents or chemical accelerators unless otherwise specified and approved in mixture designs.
- B. Hot-Weather Placement: Comply with ACI 301 and ACI 305.1, and as follows:
1. Maintain concrete temperature at time of discharge to not exceed 95 deg F.
 2. Fog-spray forms, steel reinforcement, and subgrade just before placing concrete. Keep subgrade uniformly moist without standing water, soft spots, or dry areas.

1.10 WARRANTY

- A. Manufacturer's Warranty: Manufacturer agrees to furnish replacement sheet vapor retarder/termite barrier material and accessories for sheet vapor retarder/ termite barrier and accessories that do not comply with requirements or that fail to resist penetration by termites within specified warranty period.

1. Warranty Period: 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 CONCRETE, GENERAL

- A. ACI Publications: Comply with ACI 301 unless modified by requirements in the Contract Documents.

2.2 CONCRETE MATERIALS

- A. Source Limitations:

1. Obtain all concrete mixtures from a single ready-mixed concrete manufacturer for entire Project.
2. Obtain each type or class of cementitious material of the same brand from the same manufacturer's plant.
3. Obtain aggregate from single source.
4. Obtain each type of admixture from single source from single manufacturer.

- B. Cementitious Materials:

1. Performance-Based Hydraulic Cement: ASTM C1157, Type HS, high sulfate resistance.

- C. Normal-Weight Aggregates: ASTM C33, Class 3S coarse aggregate or better, graded. Provide aggregates from a single source.

1. Alkali-Silica Reaction: Comply with one of the following:

- a. Expansion Result of Aggregate: Not more than 0.04 percent at one-year when tested in accordance with ASTM C1293.
- b. Expansion Results of Aggregate and Cementitious Materials in Combination: Not more than 0.10 percent at an age of 16 days when tested in accordance with ASTM C1567.
- c. Alkali Content in Concrete: Not more than 4 lb./cu. yd. for moderately reactive aggregate or 3 lb./cu. yd. for highly reactive aggregate, when tested in accordance with ASTM C1293 and categorized in accordance with ASTM C1778, based on alkali content being calculated in accordance with ACI 301.

2. Maximum Coarse-Aggregate Size: 1 inch nominal.
3. Fine Aggregate: Free of materials with deleterious reactivity to alkali in cement.

D. Air-Entraining Admixture: ASTM C260.

E. Chemical Admixtures: Certified by manufacturer to be compatible with other admixtures that do not contribute water-soluble chloride ions exceeding those permitted in hardened concrete. Do not use calcium chloride or admixtures containing calcium chloride in steel-reinforced concrete.

1. Water-Reducing Admixture: ASTM C494, Type A.
2. Retarding Admixture: ASTM C494, Type B.
3. Water-Reducing and -Retarding Admixture: ASTM C494/C494M, Type D.
4. High-Range, Water-Reducing Admixture: ASTM C494, Type F.
5. High-Range, Water-Reducing and -Retarding Admixture: ASTM C494, Type G.
6. Plasticizing and Retarding Admixture: ASTM C1017, Type II

7. Non-Set-Accelerating Corrosion-Inhibiting Admixture: Commercially formulated, non-set-accelerating, anodic inhibitor or mixed cathodic and anodic inhibitor; capable of forming a protective barrier and minimizing chloride reactions with steel reinforcement in concrete.

8. Permeability-Reducing Admixture: ASTM C494, Type S, hydrophilic, permeability-reducing crystalline admixture, capable of reducing water absorption of concrete exposed to hydrostatic pressure (PRAH).

2.3 CURING MATERIALS

- A. Evaporation Retarder: Waterborne, monomolecular film forming, manufactured for application to fresh concrete.
- B. Water: Potable or complying with ASTM C1602.
- C. Clear, Waterborne, Membrane-Forming, Dissipating Curing Compound: ASTM C309, Type 1, Class B.

2.4 CONCRETE MIXTURES, GENERAL

- A. Prepare design mixtures for each type and strength of concrete, proportioned on the basis of laboratory trial mixture or field test data, or both, in accordance with ACI 301.
 1. Use a qualified testing agency for preparing and reporting proposed mixture designs, based on laboratory trial mixtures.
- B. Cementitious Materials: Limit percentage, by weight, of cementitious materials other than Portland cement in concrete as follows:
 1. Fly Ash or Other Pozzolans: 25 percent by mass.
 2. Slag Cement: 50 percent by mass.

3. Silica Fume: 10 percent by mass.
4. Total of Fly Ash or Other Pozzolans, Slag Cement, and Silica Fume: 50 percent by mass, with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.
5. Total of Fly Ash or Other Pozzolans and Silica Fume: 35 percent by mass with fly ash or pozzolans not exceeding 25 percent by mass and silica fume not exceeding 10 percent by mass.

C. Admixtures: Use admixtures in accordance with manufacturer's written instructions.

1. Use water-reducing, high-range water-reducing, or plasticizing admixture in concrete, as required, for placement and workability.
2. Use water-reducing and -retarding admixture when required by high temperatures, low humidity, or other adverse placement conditions.
3. Use water-reducing admixture in pumped concrete, and concrete with a w/cm below 0.50.
4. Use corrosion-inhibiting admixture in concrete mixtures where indicated.
5. Use permeability-reducing admixture in concrete mixtures where indicated.

2.5 CONCRETE MIXTURES

A. Class A: Normal-weight concrete used for footings, grade beams, and tie beams.

1. Exposure Class: ACI 318 W1
2. Minimum Compressive Strength: 4000 psi at 28 days.
3. Maximum w/cm: 0.40.
4. Slump Limit: 5 inches, plus or minus 1 inch before adding high-range water-reducing admixture or plasticizing admixture at Project site.
5. Air Content:
 - a. Exposure Class F2: 6 percent, plus or minus 1.5 percent at point of delivery for concrete containing 1-inch nominal maximum aggregate size
6. Limit water-soluble, chloride-ion content in hardened concrete to 0.00 percent by weight of cement.

2.6 CONCRETE MIXING

A. Ready-Mixed Concrete: Measure, batch, mix, and deliver concrete in accordance with ASTM C94 and ASTM C1116 and furnish batch ticket information.

PART 3 - EXECUTION

3.1 EXAMINATION

A. Verification of Conditions:

1. Before placing concrete, verify that installation of concrete forms, accessories, and reinforcement, and embedded items is complete and that required inspections have been performed.
2. Do not proceed until unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Provide reasonable auxiliary services to accommodate field testing and inspections, acceptable to testing agency, including the following:
 1. Daily access to the Work.
 2. Incidental labor and facilities necessary to facilitate tests and inspections.
 3. Secure space for storage, initial curing, and field curing of test samples, including source of water and continuous electrical power at Project site during site curing period for test samples.
 4. Security and protection for test samples and for testing and inspection equipment at Project site.

3.3 INSTALLATION OF EMBEDDED ITEMS

- A. Place and secure anchorage devices and other embedded items required for adjoining Work that is attached to or supported by cast-in-place concrete.
 1. Use setting drawings, templates, diagrams, instructions, and directions furnished with items to be embedded.
 2. Install anchor rods, accurately located, to elevations required and complying with tolerances in Section 7.5 of ANSI/AISC 303.

3.4 CONCRETE PLACEMENT

- A. Before placing concrete, verify that installation of formwork, reinforcement, embedded items, and vapor retarder is complete and that required inspections are completed.
 1. Immediately prior to concrete placement, inspect vapor retarder for damage and deficient installation, and repair defective areas.
 2. Provide continuous inspection of vapor retarder during concrete placement and make necessary repairs to damaged areas as Work progresses.
- B. Notify Architect and testing and inspection agencies 24 hours prior to commencement of concrete placement.
- C. Do not add water to concrete during delivery, at Project site, or during placement unless approved by Architect in writing, but not to exceed the amount indicated on the concrete delivery ticket.
 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.

- D. Before test sampling and placing concrete, water may be added at Project site, subject to limitations of ACI 301, but not to exceed the amount indicated on the concrete delivery ticket.
 - 1. Do not add water to concrete after adding high-range water-reducing admixtures to mixture.
- E. Deposit concrete continuously in one layer or in horizontal layers of such thickness that no new concrete is placed on concrete that has hardened enough to cause seams or planes of weakness.
 - 1. Deposit concrete to avoid segregation.
 - 2. Deposit concrete in horizontal layers of depth not to exceed formwork design pressures.
 - 3. Consolidate placed concrete with mechanical vibrating equipment in accordance with ACI 301.
 - a. Do not use vibrators to transport concrete inside forms.
 - b. Insert and withdraw vibrators vertically at uniformly spaced locations to rapidly penetrate placed layer and at least 6 inches into preceding layer.
 - c. Do not insert vibrators into lower layers of concrete that have begun to lose plasticity.
 - d. At each insertion, limit duration of vibration to time necessary to consolidate concrete, and complete embedment of reinforcement and other embedded items without causing mixture constituents to segregate.

3.5 FINISHING FORMED SURFACES

A. As-Cast Surface Finishes:

- 1. ACI 301 surface Finish SF-1.0: As-cast concrete texture imparted by form-facing material.
 - a. Patch voids larger than 1-1/2 inches wide or 1/2 inch deep.
 - b. Remove projections larger than 1 inch.
 - c. Surface Tolerance: ACI 117 Class D.
 - d. Apply to exposed concrete surfaces.

B. Related Unformed Surfaces:

- 1. At tops of piers, and after insertion of anchorage devices, provide tapered surface extending to outside form edge with a slope as required to prevent the accumulation of standing water on top of the concrete pier..

3.6 INSTALLATION OF MISCELLANEOUS CONCRETE ITEMS

A. Filling In:

1. Fill in holes and openings left in concrete structures after Work of other trades is in place unless otherwise indicated.
2. Provide other miscellaneous concrete filling indicated or required to complete the Work.

3.7 CONCRETE CURING

- A. Protect freshly placed concrete from premature drying and excessive cold or hot temperatures.
 1. Comply with ACI 301 and ACI 306.1 for cold weather protection during curing.
 2. Comply with ACI 301 and ACI 305.1 for hot-weather protection during curing.
 3. Maintain moisture loss no more than 0.2 lb/sq. ft. x h before and during finishing operations.
- B. Curing Formed Surfaces: Comply with ACI 308.1 as follows:
 1. Cure formed concrete surfaces, including underside of beams, supported slabs, and other similar surfaces.
 2. If forms remain during curing period, moist cure after loosening forms.
- C. Curing Unformed Surfaces: Comply with ACI 308.1 as follows:
 1. Begin curing immediately after finishing concrete.
 - 1) Ponding or Continuous Sprinkling of Water: Maintain concrete surfaces continuously wet for not less than seven days, utilizing one, or a combination of, the following:
 - a) Water.
 - b) Continuous water-fog spray.

3.8 TOLERANCES

- A. Conform to ACI 117.

3.9 CONCRETE SURFACE REPAIRS

- A. Defective Concrete:
 1. Repair and patch defective areas when approved by Architect.
 2. Remove and replace concrete that cannot be repaired and patched to Architect's approval.
- B. Patching Mortar: Mix dry-pack patching mortar, consisting of 1 part Portland cement to 2-1/2 parts fine aggregate passing a No. 16 sieve, using only enough water for handling and placing.

1. Fill in holes and openings left in concrete structures after Work of other trades is cracks, spalls, air bubbles, honeycombs, rock pockets, fins and other projections on the surface, and stains and other discolorations that cannot be removed by cleaning.
1. Immediately after form removal, cut out honeycombs, rock pockets, and voids more than 1/2 inch in any dimension to solid concrete.
 - a. Limit cut depth to 3/4 inch.
 - b. Make edges of cuts perpendicular to concrete surface.
 - c. Clean, dampen with water, and brush-coat holes and voids with bonding agent.
 - d. Fill and compact with patching mortar before bonding agent has dried.
 - e. Fill form-tie voids with patching mortar or cone plugs secured in place with bonding agent.
2. Repair defects on surfaces exposed to view by blending white Portland cement and standard Portland cement, so that, when dry, patching mortar matches surrounding color.
 - a. Patch a test area at inconspicuous locations to verify mixture and color match before proceeding with patching.
 - b. Compact mortar in place and strike off slightly higher than surrounding surface.
3. Repair defects on concealed formed surfaces that will affect concrete's durability and structural performance as determined by Architect.

3.10 FIELD QUALITY CONTROL

- A. Special Inspections: Owner will engage a special inspector to perform field tests and inspections and prepare testing and inspection reports.
- B. Testing Agency: Engage a qualified testing and inspecting agency to perform tests and inspections and to submit reports.
 1. Testing agency shall be responsible for providing curing container for composite samples on Site and verifying that field-cured composite samples are cured in accordance with ASTM C31.
 2. Testing agency shall immediately report to Architect, Contractor, and concrete manufacturer any failure of Work to comply with Contract Documents.
 3. Testing agency shall report results of tests and inspections, in writing, to Owner, Architect, Contractor, and concrete manufacturer within 48 hours of inspections and tests.
 - a. Test reports shall include reporting requirements of ASTM C31, ASTM C39, and ACI 301, including the following as applicable to each test and inspection:
 - 1) Project name.
 - 2) Name of testing agency.

- 3) Names and certification numbers of field and laboratory technicians performing inspections and testing.
 - 4) Name of concrete manufacturer.
 - 5) Date and time of inspection, sampling, and field testing.
 - 6) Date and time of concrete placement.
 - 7) Location in Work of concrete represented by samples.
 - 8) Date and time sample was obtained.
 - 9) Truck and batch ticket numbers.
 - 10) Design compressive strength at 28 days.
 - 11) Concrete mixture designation, proportions, and materials.
 - 12) Field test results.
 - 13) Information on storage and curing of samples before testing, including curing method and maximum and minimum temperatures during initial curing period.
 - 14) Type of fracture and compressive break strengths at seven days and 28 days.
- C. Batch Tickets: For each load delivered, submit three copies of batch delivery ticket to testing agency, indicating quantity, mix identification, admixtures, design strength, aggregate size, design air content, design slump at time of batching, and amount of water that can be added at Project site.
- D. Inspections:
1. Headed bolts and studs.
 2. Verification of use of required design mixture.
 3. Concrete placement, including conveying and depositing.
 4. Curing procedures and maintenance of curing temperature.
 5. Verification of concrete strength before removal of shores and forms from beams and slabs.
 6. Batch Plant Inspections: On a random basis, as determined by Architect.
- E. Concrete Tests: Testing of composite samples of fresh concrete obtained in accordance with ASTM C 172 shall be performed in accordance with the following requirements:
1. Testing Frequency: Obtain one composite sample for each day's pour of each concrete mixture exceeding 5 cu. yd., but less than 25 cu. yd., plus one set for each additional 50 cu. yd. or fraction thereof.
 - a. When frequency of testing provides fewer than five compressive-strength tests for each concrete mixture, testing shall be conducted from at least five randomly selected batches or from each batch if fewer than five are used.
 2. Slump: ASTM C143:
 - a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 - b. Perform additional tests when concrete consistency appears to change.

3. Slump Flow: ASTM C1611:
 - a. One test at point of placement for each composite sample, but not less than one test for each day's pour of each concrete mixture.
 - b. Perform additional tests when concrete consistency appears to change.
4. Air Content: ASTM C231 pressure method, for normal-weight concrete;
 - a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
5. Concrete Temperature: ASTM C1064:
 - a. One test hourly when air temperature is 40 deg F and below or 80 deg F and above, and one test for each composite sample.
6. Unit Weight: ASTM C567 fresh unit weight of structural lightweight concrete.
 - a. One test for each composite sample, but not less than one test for each day's pour of each concrete mixture.
7. Compression Test Specimens: ASTM C31:
 - a. Cast and laboratory cure two sets of four 6-inch by 12-inch or 4-inch by 8-inch cylinder specimens for each composite sample.
 - b. Cast, initial cure, and field cure two sets of four standard cylinder specimens for each composite sample.
8. Compressive-Strength Tests: ASTM C39.
 - a. Test one set of four laboratory-cured specimens at seven days and one set of two specimens at 28 days.
 - b. Test one set of four field-cured specimens at seven days and one set of two specimens at 28 days.
 - c. A compressive-strength test shall be the average compressive strength from a set of two specimens obtained from same composite sample and tested at age indicated.
9. When strength of field-cured cylinders is less than 85 percent of companion laboratory-cured cylinders, Contractor shall evaluate operations and provide corrective procedures for protecting and curing in-place concrete.
10. Strength of each concrete mixture will be satisfactory if every average of any three consecutive compressive-strength tests equals or exceeds specified compressive strength, and no compressive-strength test value falls below specified compressive strength by more than 500 psi if specified compressive strength is 5000 psi, or no compressive strength test value is less than 10 percent of specified compressive strength if specified compressive strength is greater than 5000 psi.
11. Nondestructive Testing: Impact hammer, sonoscope, or other nondestructive device may be permitted by Architect but will not be used as sole basis for approval or rejection of concrete.

12. Additional Tests:

- a. Testing and inspecting agency shall make additional tests of concrete when test results indicate that slump, air entrainment, compressive strengths, or other requirements have not been met, as directed by Architect.
- b. Testing and inspecting agency may conduct tests to determine adequacy of concrete by cored cylinders complying with ASTM C42 or by other methods as directed by Architect.
 - 1) Acceptance criteria for concrete strength shall be in accordance with ACI 301, section 1.6.6.3.

13. Additional testing and inspecting, at Contractor's expense, will be performed to determine compliance of replaced or additional work with specified requirements.

14. Correct deficiencies in the Work that test reports and inspections indicate do not comply with the Contract Documents.

3.11 PROTECTION

A. Protect concrete surfaces as follows:

1. Protect from petroleum stains.
2. Prohibit use of acids or acidic detergents over concrete surfaces.

END OF SECTION 033000

SECTION 061000 - ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Rooftop equipment bases and support curbs.
4. Wood blocking[, **cants,**] and nailers.
5. Wood furring[**and grounds**].
6. Wood sleepers.
7. Plywood backing panels.

- B. Related Requirements:

1. Section 061063 "Exterior Rough Carpentry."
2. Section 061600 "Sheathing" for sheathing, subflooring, and underlayment.
3. Section 061753 "Shop-Fabricated Wood Trusses" for wood trusses made from dimension lumber.
4. Section 313116 "Termite Control" for site application of borate treatment to wood framing.

1.3 DEFINITIONS

- A. Boards or Strips: Lumber of less than **2 inches nominal** size in least dimension.
- B. Dimension Lumber: Lumber of **2 inches nominal** size or greater but less than **5 inches nominal** size in least dimension.
- C. Exposed Framing: Framing not concealed by other construction.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Include physical properties of treated materials based on testing by a qualified independent testing agency.
3. For fire-retardant treatments, include physical properties of treated lumber both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D5664.
4. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

B. Fastener Patterns: Full-size templates for fasteners in exposed framing.

1.5 INFORMATIONAL SUBMITTALS

- A. Material Certificates: For dimension lumber specified to comply with minimum allowable unit stresses. Indicate species and grade selected for each use and design values approved by the ALSC Board of Review.
- B. Evaluation Reports: For the following, from ICC-ES:
 1. Wood-preservative-treated wood.
 2. Engineered wood products.
 3. Power-driven fasteners.
 4. Post-installed anchors.
 5. Metal framing anchors.

1.6 QUALITY ASSURANCE

- A. Testing Agency Qualifications: For testing agency providing classification marking for fire-retardant treated material, an inspection agency acceptable to authorities having jurisdiction that periodically performs inspections to verify that the material bearing the classification marking is representative of the material tested.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Stack wood products flat with spacers beneath and between each bundle to provide air circulation. Protect wood products from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, comply with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Grade lumber by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
1. Factory mark each piece of lumber with grade stamp of grading agency.
 2. For exposed lumber indicated to receive a stained or natural finish, **[mark grade stamp on end or back of each piece] [or] [omit grade stamp and provide certificates of grade compliance issued by grading agency]**.
 3. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 15 percent 2-inch nominal thickness or less; 19 percent for more than 2-inch nominal thickness unless otherwise indicated.
- C. Engineered Wood Products: Acceptable to authorities having jurisdiction and for which current model code research or evaluation reports exist that show compliance with building code in effect for Project.
1. Allowable design stresses, as published by manufacturer, shall meet or exceed those indicated. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency.

2.2 WOOD-PRESERVATIVE-TREATED LUMBER

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b for exterior construction not in contact with ground, and Use Category UC4a for items in contact with ground.
1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium. Do not use inorganic boron (SBX) for sill plates.
 2. For exposed items indicated to receive a stained or natural finish, chemical formulations shall not require incising, contain colorants, bleed through, or otherwise adversely affect finishes.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or that does not comply with requirements for untreated material.
- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat **[all rough carpentry unless otherwise indicated.] [items indicated on Drawings, and the following:]**

1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
2. Wood sills, sleepers, blocking, **[furring,] [stripping,]** and similar concealed members in contact with masonry or concrete.
3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
4. Wood framing members that are less than **18 inches** above the ground in crawlspaces or unexcavated areas.
5. Wood floor plates that are installed over concrete slabs-on-grade.

2.3 DIMENSION LUMBER FRAMING

A. Non-Load-Bearing Interior Partitions: **[Construction or No. 2] [Construction, Stud, or No. 3] [Standard, Stud, or No. 3]** grade.

1. Application: **[All interior partitions] [Interior partitions not indicated as load bearing].**
2. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine or mixed southern pine; SPIB.
 - c. Spruce-pine-fir; NLGA.
 - d. Hem-fir; WCLIB, or WWPA.
 - e. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 - f. Northern species; NLGA.
 - g. Eastern softwoods; NeLMA.
 - h. Western woods; WCLIB or WWPA.

B. Load-Bearing Partitions: **[No. 2] [Construction or No. 2] [Construction, Stud, or No. 3]** grade.

1. Application: **[Exterior walls] [and] [interior load-bearing partitions].**
2. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine; SPIB.
 - c. Douglas fir-larch; WCLIB or WWPA.
 - d. Southern pine or mixed southern pine; SPIB.
 - e. Spruce-pine-fir; NLGA.
 - f. Douglas fir-south; WWPA.
 - g. Hem-fir; WCLIB or WWPA.
 - h. Douglas fir-larch (north); NLGA.
 - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

C. Load-Bearing Partitions: Any species of machine stress-rated dimension lumber with a grade of not less than **[2400f-2.0E] [2100f-1.8E] [1650f-1.5E] <Insert grade>**.

1. Application: **[Exterior walls] [and] [interior load-bearing partitions].**

- D. Load-Bearing Partitions: Any species and grade with a modulus of elasticity of at least [1,500,000 psi (10 350 MPa)] [1,300,000 psi (8970 MPa)] [1,100,000 psi (7590 MPa)] [1,000,000 psi (6900 MPa)] [900,000 psi (6210 MPa)] and an extreme fiber stress in bending of at least [1000 psi (6.9 MPa)] [850 psi (5.86 MPa)] [700 psi (4.83 MPa)] [600 psi (4.14 MPa)] [500 psi (3.45 MPa)] for 2-inch nominal (38-mm actual) thickness and 12-inch nominal (286-mm actual) width for single-member use.
1. Application: [Exterior walls] [and] [interior load-bearing partitions].
- E. Ceiling Joists: [Construction or No. 2] [Construction, Stud, or No. 3] [Standard, Stud, or No. 3] grade.
1. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine; SPIB.
 - c. Douglas fir-larch; WCLIB or WWPA.
 - d. Douglas fir-larch (north); NLGA.
 - e. Southern pine or mixed southern pine; SPIB.
 - f. Spruce-pine-fir; NLGA.
 - g. Hem-fir; WCLIB or WWPA.
 - h. Douglas fir-south; WWPA.
 - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 - j. Northern species; NLGA.
 - k. Eastern softwoods; NeLMA.
 - l. Western woods; WCLIB or WWPA.
- F. Joists, Rafters, and Other Framing Not Listed Above: [Select Structural] [No. 1] [No. 2] [Construction or No. 2] [Construction, Stud, or No. 3] grade.
1. Species:
 - a. Hem-fir (north); NLGA.
 - b. Southern pine; SPIB.
 - c. Douglas fir-larch; WCLIB or WWPA.
 - d. Southern pine or mixed southern pine; SPIB.
 - e. Spruce-pine-fir; NLGA.
 - f. Douglas fir-south; WWPA.
 - g. Hem-fir; WCLIB or WWPA.
 - h. Douglas fir-larch (north); NLGA.
 - i. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
- G. Joists, Rafters, and Other Framing Not Listed Above: Any species of machine stress-rated dimension lumber with a grade of not less than [2400f-2.0E] [2100f-1.8E] [1650f-1.5E] <Insert grade>.
- H. Joists, Rafters, and Other Framing Not Listed Above: Any species and grade with a modulus of elasticity of at least [1,500,000 psi (10 350 MPa)] [1,300,000 psi (8970 MPa)] [1,100,000 psi (7590 MPa)] [1,000,000 psi (6900 MPa)] [900,000 psi (6210 MPa)] and an extreme fiber stress in bending of at least [1000 psi (6.9 MPa)] [850 psi (5.86 MPa)] [700 psi (4.83 MPa)] [600 psi (4.14 MPa)] [500 psi (3.45 MPa)] for 2-inch

nominal (38-mm actual) thickness and 12-inch nominal (286-mm actual) width for single-member use.

- I. Exposed Framing[**Indicated to Receive a Stained or Natural Finish**]: Hand-select material for uniformity of appearance and freedom from characteristics, on exposed surfaces and edges, that would impair finish appearance, including decay, honeycomb, knot-holes, shake, splits, torn grain, and wane.
 1. Species and Grade: As indicated above for load-bearing construction of same type.
 2. Species and Grade: Hem-fir (north); [**Select Structural**] [**No. 1**] grade; NLGA.
 3. Species and Grade: Southern pine; [**Select Structural**] [**No. 1**] [**No. 2**] grade; SPIB.
 4. Species and Grade: Douglas fir-larch; [**Select Structural**] [**No. 1**] grade; WCLIB or WWPA.
 5. Species and Grade: Mixed southern pine; [**Select Structural**] [**No. 1**] [**No. 2**] grade; SPIB.
 6. Species and Grade: Spruce-pine-fir; [**Select Structural**] [**No. 1**] grade; NLGA.
 7. Species and Grade: Douglas fir-south; [**Select Structural**] [**No. 1**] grade; WWPA.
 8. Species and Grade: Hem-fir; [**Select Structural**] [**No. 1**] grade; WCLIB or WWPA.
 9. Species and Grade: Douglas fir-larch (north); [**Select Structural**] [**No. 1**] grade; NLGA.
 10. Species and Grade: Spruce-pine-fir (south); [**Select Structural**] [**No. 1**] grade; NeLMA, WCLIB, or WWPA.
 11. Species and Grade: Eastern hemlock-balsam fir or eastern hemlock-tamarack; [**Select Structural**] [**No. 1**] grade; NeLMA.
 12. Species and Grade: Beech-birch-hickory; [**Select Structural**] [**No. 1**] grade; NeLMA.
 13. Species and Grade: Northern red oak; [**Select Structural**] [**No. 1**] grade; NeLMA.
 14. Species and Grade: Redwood; [**Clear Heart Structural**] [**Clear Structural**] [**Select Structural**] [**No. 1**] grade; RIS.
 15. Species and Grade: Mixed oak; [**Select Structural**] [**No. 1**] grade; NeLMA.
 16. Species and Grade: Mixed maple; [**Select Structural**] [**No. 1**] grade; NeLMA.
 17. Species and Grade: Western cedars; [**Select Structural**] [**No. 1**] grade; WCLIB or WWPA.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 1. Blocking.
 2. Nailers.
 3. Rooftop equipment bases and support curbs.
 4. Cants.
 5. Furring.
 6. Grounds.

- B. Dimension Lumber Items: [**Construction or No. 2**] [**Standard, Stud, or No. 3**] grade lumber of [**any species.**] [**any of the following species:**] [**the following species:**]
1. Hem-fir (north); NLGA.
 2. Mixed southern pine or southern pine; SPIB.
 3. Spruce-pine-fir; NLGA.
 4. Hem-fir; WCLIB or WWPA.
 5. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 6. Western woods; WCLIB or WWPA.
 7. Northern species; NLGA.
 8. Eastern softwoods; NeLMA.
- C. Concealed Boards: [**15**] [**19**] percent maximum moisture content and [**any of**] the following species and grades:
1. Mixed southern pine or southern pine; No. [**2**] [**3**] grade; SPIB.
 2. Hem-fir or hem-fir (north); [**Construction or No. 2 Common**] [**Standard or No. 3 Common**] grade; NLGA, WCLIB, or WWPA.
 3. Spruce-pine-fir (south) or spruce-pine-fir; [**Construction or No. 2 Common**] [**Standard or No. 3 Common**] grade; NeLMA, NLGA, WCLIB, or WWPA.
 4. Eastern softwoods; No. [**2**] [**3**] Common grade; NeLMA.
 5. Northern species; No. [**2**] [**3**] Common grade; NLGA.
 6. Western woods; [**Construction or No. 2 Common**] [**Standard or No. 3 Common**] grade; WCLIB or WWPA.
- D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.
- E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.
- F. For furring strips for installing plywood or hardboard paneling, select boards with no knots capable of producing bent-over nails and damage to paneling.

2.5 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: Plywood, DOC PS 1, [**Exterior, A-C**] [**Exterior, C-C Plugged**] [**Exposure 1, C-D Plugged**], [**fire-retardant treated,**] in thickness indicated or, if not indicated, not less than [**1/2-inch (13-mm)**] [**3/4-inch (19-mm)**] nominal thickness.

2.6 FASTENERS

- A. General: Fasteners shall be of size and type indicated and shall comply with requirements specified in this article for material and manufacture.

1. Where rough carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners[**with hot-dip zinc coating complying with ASTM A153/A153M**] [of **Type 304 stainless steel**].
 - B. Nails, Brads, and Staples: ASTM F1667.
 - C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
 - D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on [**ICC-ES AC01**] [**ICC-ES AC58**] [**ICC-ES AC193**] [or] [**ICC-ES AC308**] as appropriate for the substrate.
 1. Material: Carbon-steel components, zinc plated to comply with ASTM B633, Class Fe/Zn 5.
 2. Material: Stainless steel with bolts and nuts complying with **ASTM F593 and ASTM F594, Alloy Group 1 or 2** (ASTM F738M and ASTM F836M, Grade A1 or A4).
- 2.7 METAL FRAMING ANCHORS
- A. [<Double click here to find, evaluate, and insert list of manufacturers and products.>](#)
 - B. Allowable design loads, as published by manufacturer, shall meet or exceed those [**indicated**] [**of basis-of-design products**] [**of products of manufacturers listed**]. Manufacturer's published values shall be determined from empirical data or by rational engineering analysis and demonstrated by comprehensive testing performed by a qualified independent testing agency. Framing anchors shall be punched for fasteners adequate to withstand same loads as framing anchors.
 - C. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A653/A653M, **G60 (Z180)** coating designation.
 1. Use for interior locations unless otherwise indicated.
 - D. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A653/A653M; structural steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); **G185 (Z550)** coating designation; and not less than **0.036 inch (0.9 mm)** thick.
 1. Use for wood-preservative-treated lumber and where indicated.
 - E. Stainless Steel Sheet: ASTM A240/A240M or ASTM A666, [**Type 304**] [**Type 316**].
 1. Use for exterior locations and where indicated.
 - F. Joist Hangers: U-shaped joist hangers with **2-inch- (50-mm-)** long seat and **1-1/4-inch- (32-mm-)** wide nailing flanges at least 85 percent of joist depth.

1. Thickness: [0.050 inch (1.3 mm)] [0.062 inch (1.6 mm)].
- G. I-Joist Hangers: U-shaped joist hangers with 2-inch- (50-mm-) long seat and 1-1/4-inch- (32-mm-) wide nailing flanges full depth of joist. Nailing flanges provide lateral support at joist top chord.
1. Thickness: [0.050 inch (1.3 mm)] [0.062 inch (1.6 mm)].
- H. Top Flange Hangers: U-shaped joist hangers, full depth of joist, formed from metal strap with tabs bent to extend over and be fastened to supporting member.
1. Strap Width: [1-1/2 inches (38 mm)] [2 inches (50 mm)].
 2. Thickness: [0.050 inch (1.3 mm)] [0.062 inch (1.6 mm)].
- I. Bridging: Rigid, V-section, nailless type, 0.050 inch (1.3 mm) thick, length to suit joist size and spacing.
- J. Post Bases: Adjustable-socket type for bolting in place with standoff plate to raise post 1 inch (25 mm) above base and with 2-inch- (50-mm-) minimum side cover, socket 0.062 inch (1.6 mm) thick, and standoff and adjustment plates 0.108 inch (2.8 mm) thick.
- K. Joist Ties: Flat straps, with holes for fasteners, for tying joists together over supports.
1. Width: [3/4 inch (19 mm)] [1-1/4 inches (32 mm)].
 2. Thickness: [0.050 inch (1.3 mm)] [0.062 inch (1.6 mm)].
 3. Length: [16 inches (400 mm)] [24 inches (600 mm)] [As indicated].
- L. Rafter Tie-Downs: Bent strap tie for fastening rafters or roof trusses to wall studs below, 1-1/2 inches (38 mm) wide by 0.050 inch (1.3 mm) thick. [Tie fastens to side of rafter or truss, face of top plates, and side of stud below.]
- M. Rafter Tie-Downs (Hurricane or Seismic Ties): Bent strap tie for fastening rafters or roof trusses to wall studs below, 2-1/4 inches (57 mm) wide by 0.062 inch (1.6 mm) thick. Tie fits over top of rafter or truss and fastens to both sides of rafter or truss, face of top plates, and side of stud below.
- N. Floor-to-Floor Ties: Flat straps, with holes for fasteners, for tying upper floor wall studs to band joists and lower floor studs, 1-1/4 inches (32 mm) wide by 0.050 inch (1.3 mm) thick by 36 inches (914 mm) long.
- O. Hold-Downs: Brackets for bolting to wall studs and securing to foundation walls with anchor bolts or to other hold-downs with threaded rods and designed with first of two bolts placed seven bolt diameters from reinforced base.
1. Bolt Diameter: [5/8 inch (15.8 mm)] [3/4 inch (19 mm)].
 2. Width: [2-1/2 inches (64 mm)] [3-3/16 inches (81 mm)].
 3. Body Thickness: [0.108 inch (2.8 mm)] [0.138 inch (3.5 mm)].
 4. Base Reinforcement Thickness: [0.108 inch (2.8 mm)] [0.239 inch (6.1 mm)].

- P. Wall Bracing: T-shaped bracing made for letting into studs in saw kerf, 1-1/8 inches (29 mm) wide by 9/16 inch (14 mm) deep by 0.034 inch (0.85 mm) thick with hemmed edges.
- Q. Wall Bracing: Angle bracing made for letting into studs in saw kerf, 15/16 by 15/16 by 0.040 inch (24 by 24 by 1 mm) thick with hemmed edges.

2.8 MISCELLANEOUS MATERIALS

- A. Sill-Sealer Gaskets: Glass-fiber-resilient insulation, fabricated in strip form, for use as a sill sealer; 1-inch (25-mm) nominal thickness, compressible to 1/32 inch (0.8 mm); selected from manufacturer's standard widths to suit width of sill members indicated.
- B. Sill-Sealer Gaskets: Closed-cell neoprene foam, 1/4 inch (6.4 mm) thick, selected from manufacturer's standard widths to suit width of sill members indicated.
- C. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, **[butyl rubber]** **[or]** **[rubberized-asphalt]** compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch (0.6 mm).
- D. Adhesives for Gluing **[Furring]** **[and]** **[Sleepers]** to Concrete or Masonry: Formulation complying with ASTM D3498 that is approved for use indicated by adhesive manufacturer.
 - 1. [<Double click to insert sustainable design text for VOC content of adhesive.>](#)
 - 2. [<Double click to insert sustainable design text for low emitting adhesives.>](#)
- E. Water-Repellent Preservative: NWWDA-tested and -accepted formulation containing 3-iodo-2-propynyl butyl carbamate, combined with an insecticide containing chloropyrifos as its active ingredient.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- C. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry accurately to other construction. Locate **[furring,**]nailers, blocking, **[grounds,**]and similar supports to comply with requirements for attaching other construction.

- D. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels. [**Install fire-retardant-treated plywood backing panels with classification marking of testing agency exposed to view.**]
- E. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- F. Install sill sealer gasket to form continuous seal between sill plates and foundation walls.
- G. Do not splice structural members between supports unless otherwise indicated.
- H. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 - 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than **16 inches (406 mm)** o.c.
- I. Provide fire blocking in furred spaces, stud spaces, and other concealed cavities as indicated and as follows:
 - 1. Fire block furred spaces of walls, at each floor level, at ceiling, and at not more than **96 inches (2438 mm)** o.c. with solid wood blocking or noncombustible materials accurately fitted to close furred spaces.
 - 2. Fire block concealed spaces of wood-framed walls and partitions at each floor level, at ceiling line of top story, and at not more than **96 inches (2438 mm)** o.c. Where fire blocking is not inherent in framing system used, provide closely fitted solid wood blocks of same width as framing members and **2-inch nominal (38-mm actual)** thickness.
 - 3. Fire block concealed spaces between floor sleepers with same material as sleepers to limit concealed spaces to not more than **100 sq. ft. (9.3 sq. m)** and to solidly fill space below partitions.
 - 4. Fire block concealed spaces behind combustible cornices and exterior trim at not more than **20 feet (6 m)** o.c.
- J. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.
- K. Comply with AWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- L. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code (IBC).

2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
 3. ICC-ES evaluation report for fastener.
- M. Use steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.
- N. For exposed work, arrange fasteners in straight rows parallel with edges of members, with fasteners evenly spaced, and with adjacent rows staggered.
1. Comply with **[approved] [indicated]** fastener patterns where applicable. **[Before fastening, mark fastener locations, using a template made of sheet metal, plastic, or cardboard.]**
 2. Use finishing nails unless otherwise indicated. Countersink nail heads and fill holes with wood filler.
 3. Use common nails unless otherwise indicated. Drive nails snug but do not countersink nail heads.

3.2 INSTALLATION OF WOOD BLOCKING AND NAILERS

- A. Install where indicated and where required for **[screeding or]** attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than **1-1/2 inches (38 mm)** wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 INSTALLATION OF WALL AND PARTITION FRAMING

- A. General: Provide double bottom plates and double top plates using members of 2-inch nominal thickness whose widths equal that of studs. Fasten plates to supporting construction unless otherwise indicated.
1. For exterior walls, provide 2-by-4-inch nominal-size wood studs spaced 16 inches o.c. unless otherwise indicated.
 2. For interior partitions and walls, provide 2-by-4-inch nominal-size wood studs spaced 16 inches o.c. unless otherwise indicated.
 3. Provide continuous horizontal blocking at midheight of partitions more than 96 inches high, using members of 2-inch nominal thickness and of same width as wall or partitions.

- B. Construct corners and intersections with three or more studs.
- C. Frame openings with multiple studs and headers. Provide nailed header members of thickness equal to width of studs. Support headers on jamb studs.
 - 1. For load-bearing walls, provide double-jamb studs for openings 60 inches and less in width. Provide headers of depth indicated,
- D. Provide diagonal bracing in exterior walls, at both walls of each external corner, at 45-degree angle, full-story height unless otherwise indicated. Use 1-by-4-inch nominal-size boards, let-in flush with faces of studs.

3.4 INSTALLATION OF FLOOR JOIST FRAMING

- A. General: Install floor joists with crown edge up and support ends of each member with not less than **1-1/2 inches** of bearing on wood or metal, or **3 inches** on masonry. Attach floor joists as follows:
 - 1. Where supported on wood members, by using metal framing anchors.
 - 2. Where framed into wood supporting members, by using wood ledgers as indicated or, if not indicated, by using metal joist hangers.
- B. Frame openings with headers and trimmers supported by metal joist hangers; double headers and trimmers where span of header exceeds **48 inches**.
- C. Do not notch in middle third of joists; limit notches to one-sixth depth of joist, one-third at ends. Do not bore holes larger than one-third depth of joist; do not locate closer than **2 inches** from top or bottom.
- D. Provide solid blocking of **2-inch nominal** thickness by depth of joist at ends of joists unless nailed to header or band.
- E. Lap members framing from opposite sides of beams, girders, or partitions not less than **4 inches** or securely tie opposing members together. Provide solid blocking of **2-inch nominal** thickness by depth of joist over supports.
- F. Provide solid blocking between joists under jamb studs for openings.
- G. Under non-load-bearing partitions, provide double joists separated by solid blocking equal to depth of studs above.
 - 1. Provide triple joists separated as above, under partitions receiving ceramic tile and similar heavy finishes or fixtures.
- H. Provide bridging of type indicated below, at intervals of **96 inches** o.c., between joists.
 - 1. Diagonal wood bridging formed from bevel-cut, **1-by-3-inch nominal**-size lumber, double-crossed and nailed at both ends to joists.
 - 2. Steel bridging installed to comply with bridging manufacturer's written instructions.

3.5 INSTALLATION OF RAFTER FRAMING

- A. Rafters: Notch to fit exterior wall plates and [**toe nail or**] use metal framing anchors. Double rafters to form headers and trimmers at openings in roof framing, if any, and support with metal hangers. Where rafters abut at ridge, place directly opposite each other and nail to ridge member or use metal ridge hangers.
 - 1. At valleys, provide double-valley rafters of size indicated or, if not indicated, of same thickness as regular rafters and **2 inches** deeper. Bevel ends of jack rafters for full bearing against valley rafters.
 - 2. At hips, provide hip rafter of size indicated or, if not indicated, of same thickness as regular rafters and **2 inches** deeper. Bevel ends of jack rafters for full bearing against hip rafter.
- B. Provide special framing as indicated for eaves, overhangs, dormers, and similar conditions if any.

3.6 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect rough carpentry from weather. If, despite protection, rough carpentry becomes **wet**, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061000

SECTION 061053 - MISCELLANEOUS ROUGH CARPENTRY

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Framing with dimension lumber.
- 2. Rooftop equipment bases and support curbs.
- 3. Wood blocking, cants, and nailers.
- 4. Wood sleepers.

- B. Related Requirements:

- 1. Section 061600 "Sheathing" for sheathing, subflooring, and underlayment.
- 2. Section 313116 "Termite Control" for site application of borate treatment to wood framing.

1.3 DEFINITIONS

- A. Boards or Strips: Lumber of less than 2 inches nominal size in least dimension.
- B. Dimension Lumber: Lumber of 2 inches nominal or greater size but less than 5 inches nominal size in least dimension.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.
 - 1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements. Indicate type of preservative used and net amount of preservative retained.
 - 2. For products receiving a waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.5 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For the following, from ICC-ES:
 - 1. Preservative-treated wood.
 - 2. Post-installed anchors.
 - 3. Metal framing anchors.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Stack lumber flat with spacers beneath and between each bundle to provide air circulation. Protect lumber from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PRODUCTS, GENERAL

- A. Lumber: DOC PS 20 and applicable rules of grading agencies indicated. If no grading agency is indicated, provide lumber that complies with the applicable rules of any rules-writing agency certified by the ALSC Board of Review. Provide lumber graded by an agency certified by the ALSC Board of Review to inspect and grade lumber under the rules indicated.
 - 1. Factory mark each piece of lumber with grade stamp of grading agency.
 - 2. For exposed lumber indicated to receive a stained or natural finish, **[mark grade stamp on end or back of each piece] [or] [omit grade stamp and provide certificates of grade compliance issued by grading agency]**.
 - 3. Dress lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: 15 percent for 2-inch nominal thickness or less, 19 percent for more than 2-inch nominal thickness

2.2 WOOD-PRESERVATIVE-TREATED MATERIALS

- A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b for exterior construction not in contact with ground and Category UC4a for items in contact with ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.
- B. Kiln-dry lumber after treatment to a maximum moisture content of 19 percent. Do not use material that is warped or does not comply with requirements for untreated material.

- C. Mark lumber with treatment quality mark of an inspection agency approved by the ALSC Board of Review.
- D. Application: Treat items indicated on Drawings, and the following:
 - 1. Wood cants, nailers, curbs, equipment support bases, blocking, stripping, and similar members in connection with roofing, flashing, vapor barriers, and waterproofing.
 - 2. Wood sills, sleepers, blocking, stripping, and similar concealed members in contact with masonry or concrete.
 - 3. Wood framing and furring attached directly to the interior of below-grade exterior masonry or concrete walls.
 - 4. Wood framing members that are less than 18 inches above the ground in crawlspaces or unexcavated areas.

2.3 DIMENSION LUMBER FRAMING

- A. Non-Load-Bearing Interior Partitions: Construction or No. 2 grade of any of the following species:
 - 1. Hem-fir (north); NLGA.
 - 2. Mixed southern pine or southern pine; SPIB.
 - 3. Spruce-pine-fir; NLGA.
 - 4. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 - 5. Eastern softwoods; NeLMA.
- B. Other Framing: Construction or No. 2 any of the following species:
 - 1. Hem-fir (north); NLGA.
 - 2. Southern pine; SPIB.
 - 3. Southern pine or mixed southern pine; SPIB.
 - 4. Spruce-pine-fir; NLGA.
 - 5. Hem-fir; WCLIB or WWPA.
 - 6. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.

2.4 MISCELLANEOUS LUMBER

- A. General: Provide miscellaneous lumber indicated and lumber for support or attachment of other construction, including the following:
 - 1. Blocking.
 - 2. Nailers.
 - 3. Rooftop equipment bases and support curbs.
 - 4. Cants.
 - 5. Furring.
 - 6. Grounds.
 - 7. Utility shelving.

- B. Dimension Lumber Items: Construction or No. 2 grade lumber of any of the following species:
 - 1. Hem-fir (north); NLGA.
 - 2. Mixed southern pine or southern pine; SPIB.
 - 3. Spruce-pine-fir; NLGA.
 - 4. Spruce-pine-fir (south); NeLMA, WCLIB, or WWPA.
 - 5. Eastern softwoods; NeLMA.

- C. Concealed Boards: 15 percent maximum moisture content of any of the following species and grades:
 - 1. Mixed southern pine or southern pine, No. 2 grade; SPIB.
 - 2. Hem-fir or hem-fir (north), Construction or No. 2 Common grade; NLGA, WCLIB, or WWPA.
 - 3. Spruce-pine-fir (south) or spruce-pine-fir, Construction or No. 2 Common grade; NeLMA, NLGA, WCLIB, or WWPA.
 - 4. Eastern softwoods, No. 2 Common grade; NELMA.

- D. For blocking not used for attachment of other construction, Utility, Stud, or No. 3 grade lumber of any species may be used provided that it is cut and selected to eliminate defects that will interfere with its attachment and purpose.

- E. For blocking and nailers used for attachment of other construction, select and cut lumber to eliminate knots and other defects that will interfere with attachment of other work.

2.5 PLYWOOD BACKING PANELS

- A. Equipment Backing Panels: Plywood, DOC PS 1, Exterior, C-C Plugged in thickness indicated or, if not indicated, not less than 3/4-inch nominal thickness.

2.6 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. Where carpentry is exposed to weather, in ground contact, pressure-preservative treated, or in area of high relative humidity, provide fasteners with hot-dip zinc coating complying with ASTM A153.

- B. Nails, Brads, and Staples: ASTM F1667.

- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.

- D. Post-Installed Anchors: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, as appropriate for the substrate.

1. Material: Carbon-steel components, zinc plated to comply with ASTM B633, Class Fe/Zn 5.

2.7 METAL FRAMING ANCHORS

- A. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A653; Structural Steel (SS), high-strength low-alloy steel Type A (HSLAS Type A), or high-strength low-alloy steel Type B (HSLAS Type B); G185 coating designation; and not less than 0.036 inch thick.
 1. Use for wood-preservative-treated lumber and where indicated.

2.8 MISCELLANEOUS MATERIALS

- A. Flexible Flashing: Composite, self-adhesive, flashing product consisting of a pliable, butyl rubber or rubberized-asphalt compound, bonded to a high-density polyethylene film, aluminum foil, or spunbonded polyolefin to produce an overall thickness of not less than 0.025 inch.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- B. Set carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit carpentry accurately to other construction. Locate nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.
- C. Install plywood backing panels by fastening to studs; coordinate locations with utilities requiring backing panels.
- D. Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- E. Do not splice structural members between supports unless otherwise indicated.
- F. Provide blocking and framing as indicated and as required to support facing materials, fixtures, specialty items, and trim.
 1. Provide metal clips for fastening gypsum board or lath at corners and intersections where framing or blocking does not provide a surface for fastening edges of panels. Space clips not more than 16 inches o.c.
- G. Sort and select lumber so that natural characteristics do not interfere with installation or with fastening other materials to lumber. Do not use materials with defects that

interfere with function of member or pieces that are too small to use with minimum number of joints or optimum joint arrangement.

- H. Comply with AWP A M4 for applying field treatment to cut surfaces of preservative-treated lumber.
 - 1. Use inorganic boron for items that are continuously protected from liquid water.
 - 2. Use copper naphthenate for items not continuously protected from liquid water.
- I. Securely attach carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 2. Table R602.3(1), "Fastener Schedule for Structural Members," and Table R602.3(2), "Alternate Attachments," in ICC's International Residential Code for One- and Two-Family Dwellings.
- J. Use galvanized steel common nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections between members. Install fasteners without splitting wood. Drive nails snug but do not countersink nail heads unless otherwise indicated.

3.2 INSTALLATION OF WOOD BLOCKING AND NAILER

- A. Install where indicated and where required for attaching other work. Form to shapes indicated and cut as required for true line and level of attached work. Coordinate locations with other work involved.
- B. Attach items to substrates to support applied loading. Recess bolts and nuts flush with surfaces unless otherwise indicated.
- C. Provide permanent grounds of dressed, pressure-preservative-treated, key-beveled lumber not less than 1-1/2 inches wide and of thickness required to bring face of ground to exact thickness of finish material. Remove temporary grounds when no longer required.

3.3 PROTECTION

- A. Protect wood that has been treated with inorganic boron (SBX) from weather. If, despite protection, inorganic boron-treated wood becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.
- B. Protect miscellaneous rough carpentry from weather. If, despite protection, miscellaneous rough carpentry becomes wet, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION 061053

SECTION 061600 - SHEATHING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

1. Wall sheathing.
2. Roof sheathing.
3. Parapet sheathing.
4. Subflooring.
5. Underlayment.
6. Sheathing joint and penetration treatment.

- B. Related Requirements:

1. Section 061000 "Rough Carpentry" Section 061053 "Miscellaneous Rough Carpentry" for plywood backing panels.

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of process and factory-fabricated product. Indicate component materials and dimensions and include construction and application details.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Indicate type of preservative used and net amount of preservative retained.
2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated plywood complies with requirements. Include physical properties of treated materials.
3. For fire-retardant treatments, include physical properties of treated plywood both before and after exposure to elevated temperatures, based on testing by a qualified independent testing agency according to ASTM D5516.
4. For products receiving waterborne treatment, include statement that moisture content of treated materials was reduced to levels specified before shipment to Project site.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer. [**including list of ABAA-certified installers and supervisors employed by Installer, who work on Project**] [and] [testing and inspecting agency].
- B. Product Certificates: From air-barrier and water-resistant glass-mat gypsum sheathing manufacturer, certifying compatibility of sheathing accessory materials with Project materials that connect to or that come in contact with the sheathing.
- C. Product Test Reports: For each air-barrier and water-resistant glass-mat gypsum sheathing assembly, indicating compliance with specified requirements, for tests performed by a qualified testing agency.
- D. Evaluation Reports: For the following, from ICC-ES:
 - 1. Wood-preservative-treated plywood.
- E. Field quality-control reports.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Stack panels flat with spacers beneath and between each bundle to provide air circulation. Protect sheathing from weather by covering with waterproof sheeting, securely anchored. Provide for air circulation around stacks and under coverings.

PART 2 - PRODUCTS

2.1 WOOD PANEL PRODUCTS

- A. Emissions: Products shall meet the testing and product requirements of the California Department of Public Health's "Standard Method for the Testing and Evaluation of Volatile Organic Chemical Emissions from Indoor Sources Using Environmental Chambers."
- B. Thickness: As needed to comply with requirements specified, but not less than thickness indicated.
- C. Factory mark panels to indicate compliance with applicable standard.

2.2 PRESERVATIVE-TREATED PLYWOOD

- A. Preservative Treatment by Pressure Process: AWWPA U1; Use Category UC3b for exterior construction not in contact with ground.
 - 1. Preservative Chemicals: Acceptable to authorities having jurisdiction and containing no arsenic or chromium.

- B. Mark plywood with appropriate classification marking of an inspection agency acceptable to authorities having jurisdiction.
- C. Application: Treat items indicated on Drawings and plywood used with roofing, flashing, vapor barriers, and waterproofing.

2.3 ROOF SHEATHING

- A. Plywood Sheathing: Exterior, Structural I sheathing.
 - 1. Span Rating: Not less than 48/24.
 - 2. Nominal Thickness: Not less than 5/8 inch.

2.4 PARAPET SHEATHING

- A. Plywood Sheathing: Exterior, Structural I sheathing.
 - 1. Span Rating: Not less than 48/24.
 - 2. Nominal Thickness: Not less than 5/8 inch.
- B. Plywood Subflooring: Exterior, Structural I single-floor panels or sheathing.
 - 1. Span Rating: Not less than 48/24.
 - 2. Nominal Thickness: Not less than 23/32 inch

2.5 FASTENERS

- A. General: Provide fasteners of size and type indicated that comply with requirements specified in this article for material and manufacture.
 - 1. For roof, parapet, and] wall sheathing, provide fasteners with hot-dip zinc coating complying with ASTM A153.
- B. Nails, Brads, and Staples: ASTM F1667.
- C. Power-Driven Fasteners: Fastener systems with an evaluation report acceptable to authorities having jurisdiction, based on ICC-ES AC70.
- D. Screws for Fastening Sheathing to Wood Framing: ASTM C1002.

2.6 MISCELLANEOUS MATERIALS

- A. Adhesives for Field Gluing Panels to Wood Framing: Formulation complying with APA AFG-01 that is approved for use with type of construction panel indicated by manufacturers of both adhesives and panels.

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

- A. Do not use materials with defects that impair quality of sheathing or pieces that are too small to use with minimum number of joints or optimum joint arrangement. Arrange joints so that pieces do not span between fewer than three support members.
- B. Cut panels at penetrations, edges, and other obstructions of work; fit tightly against abutting construction unless otherwise indicated.
- C. Securely attach to substrate by fastening as indicated, complying with the following:
 - 1. Table 2304.10.1, "Fastening Schedule," Florida Building Code – Building (2020).
- D. Use galvanized common wire nails unless otherwise indicated. Select fasteners of size that will not fully penetrate members where opposite side will be exposed to view or will receive finish materials. Make tight connections. Install fasteners without splitting wood.
- E. Coordinate wall, parapet, and roof sheathing installation with flashing and joint-sealant installation so these materials are installed in sequence and manner that prevent exterior moisture from passing through completed assembly.
- F. Coordinate sheathing installation with installation of materials installed over sheathing so sheathing is not exposed to precipitation or left exposed at end of the workday when rain is forecast.

3.2 WOOD STRUCTURAL PANEL INSTALLATION

- A. General: Comply with applicable recommendations in APA Form No. E30, "Engineered Wood Construction Guide," for types of structural-use panels and applications indicated.
- B. Fastening Methods: Fasten panels as indicated below:
 - 1. Subflooring:
 - a. Glue and nail to wood framing.
 - b. Space panels 1/8 inch apart at edges and ends.
 - 2. Wall and Roof Sheathing:
 - a. Nail to wood framing. Apply a continuous bead of glue to framing members at edges of wall sheathing panels.
 - b. Space panels 1/8 inch apart at edges and ends.

3.3 FIELD QUALITY CONTROL

- A. ABAA Quality Assurance Program: Perform examinations, preparation, installation, testing, and inspections under ABAA's Quality Assurance Program.
- B. Inspections: Air-barrier installation is subject to inspection for compliance with requirements. Inspections may include the following:
 - 1. Continuity of air-barrier system has been achieved throughout the building envelope with no gaps or holes.
 - 2. Laps in strips and transition strips have complied with minimum requirements and have been shingled in the correct direction (or mastic has been applied on exposed edges), with no fishmouths.
 - 3. Termination mastic has been applied on cut edges.
 - 4. Strips and transition strips have been firmly adhered to substrate.
 - 5. Compatible materials have been used.
 - 6. Transitions at changes in direction and structural support at gaps have been provided.
 - 7. Connections between assemblies (sheathing and sealants) have complied with requirements for cleanliness, surface preparation and priming, structural support, integrity, and continuity of seal.
 - 8. All penetrations have been sealed.
- C. Air barriers will be considered defective if they do not pass tests and inspections.
- D. Prepare test and inspection reports.

END OF SECTION 061600

SECTION 072100 - THERMAL INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Polyisocyanurate foam-plastic board insulation.
- 2. Glass-fiber batt insulation.

- B. Related Requirements:

- 1. Section 072119 "Foamed-in-place Insulation" for spray applied polyurethane foam insulation.
- 2. Section 075216 "Styrene-Butadiene-Styrene (SBS) Modified Bituminous Membrane Roofing" for insulation specified as part of roofing construction.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:

- 1. Polyisocyanurate foam-plastic board insulation.
- 2. Glass-fiber batt insulation.

1.4 INFORMATIONAL SUBMITTALS

- A. Installer's Certification: Listing type, manufacturer, and R-value of insulation installed in each element of the building thermal envelope.
- B. Product Test Reports: For each product, for tests performed by a qualified testing agency.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Protect insulation materials from physical damage and from deterioration due to moisture, soiling, and other sources. Store inside and in a dry location. Comply with manufacturer's written instructions for handling, storing, and protecting during installation.

- B. Protect foam-plastic board insulation as follows:
1. Do not expose to sunlight except to necessary extent for period of installation and concealment.
 2. Protect against ignition at all times. Do not deliver foam-plastic board materials to Project site until just before installation time.
 3. Quickly complete installation and concealment of foam-plastic board insulation in each area of construction.

PART 2 - PRODUCTS

2.1 POLYISOCYANURATE FOAM-PLASTIC BOARD INSULATION

- A. Polyisocyanurate Board Insulation, Foil Faced: ASTM C1289, foil faced, Type I, Class 1 or 2.
1. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.
 2. Labeling: Provide identification of mark indicating R-value of each piece of insulation 12 inches and wider in width.

2.2 GLASS-FIBER BLANKET INSULATION

- A. Glass-Fiber Blanket Insulation, Reinforced-Foil Faced: ASTM C665, Type III (reflective faced), Class A (faced surface with a flame-spread index of 25 or less); Category 1 (membrane is a vapor barrier), faced with foil scrim, foil-scrim kraft, or foil-scrim polyethylene.
1. Provide identification mark indicating R-value of each piece of insulation 12 inches and wider in width.

2.3 ACCESSORIES

- A. Insulation for Miscellaneous Voids:
1. Glass-Fiber Insulation: ASTM C764, Type II, loose fill; with maximum flame-spread and smoke-developed indexes of 5, per ASTM E84.
 2. Spray Polyurethane Foam Insulation: ASTM C1029, Type II, closed cell, with maximum flame-spread and smoke-developed indexes of 75 and 450, respectively, per ASTM E84.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Clean substrates of substances that are harmful to insulation, including removing projections capable of puncturing insulation or vapor retarders, or that interfere with insulation attachment.

3.2 INSTALLATION, GENERAL

- A. Comply with insulation manufacturer's written instructions applicable to products and applications.
- B. Install insulation that is undamaged, dry, and unsoiled and that has not been left exposed to ice, rain, or snow at any time.
- C. Install insulation with manufacturer's R-value label exposed after insulation is installed.
- D. Extend insulation to envelop entire area to be insulated. Fit tightly around obstructions and fill voids with insulation. Remove projections that interfere with placement.
- E. Provide sizes to fit applications and selected from manufacturer's standard thicknesses, widths, and lengths. Apply single layer of insulation units unless multiple layers are otherwise shown or required to make up total thickness or to achieve R-value.

3.3 INSTALLATION OF INSULATION IN FRAMED CONSTRUCTION

- A. Blanket Insulation: Install in cavities formed by framing members according to the following requirements:
 - 1. Use insulation widths and lengths that fill the cavities formed by framing members. If more than one length is required to fill the cavities, provide lengths that will produce a snug fit between ends.
 - 2. Place insulation in cavities formed by framing members to produce a friction fit between edges of insulation and adjoining framing members.
 - 3. Maintain 3-inch clearance of insulation around recessed lighting fixtures not rated for or protected from contact with insulation.
 - 4. For wood-framed construction, install blankets according to ASTM C1320 and as follows:
 - a. With faced blankets having stapling flanges, lap blanket flange over flange of adjacent blanket to maintain continuity of vapor retarder once finish material is installed over it.
 - 5. Vapor-Retarder-Faced Blankets: Tape joints and ruptures in vapor-retarder facings, and seal each continuous area of insulation to ensure airtight installation.

- a. Exterior Walls: Set units with facing placed toward interior of construction.
- B. Miscellaneous Voids: Install insulation in miscellaneous voids and cavity spaces where required to prevent gaps in insulation using the following materials:
 - 1. Glass-Fiber Insulation: Compact to approximately 40 percent of normal maximum volume equaling a density of approximately 2.5 lb/cu. ft.
 - 2. Spray Polyurethane Insulation: Apply according to manufacturer's written instructions.

3.4 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes.
- B. Provide temporary coverings or enclosures where insulation is subject to abuse and cannot be concealed and protected by permanent construction immediately after installation.

END OF SECTION 072100

SECTION 072119 - FOAMED-IN-PLACE INSULATION

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Closed-cell spray polyurethane foam.

1.3 ACTION SUBMITTALS

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

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer.
- B. Product Test Reports: For each product, for tests performed by a qualified testing agency.

1.5 QUALITY ASSURANCE

- A. Installer Qualifications: An authorized representative who is trained and approved by manufacturer.

PART 2 - PRODUCTS

2.1 CLOSED-CELL SPRAY POLYURETHANE FOAM

- A. Closed-Cell Spray Polyurethane Foam: ASTM C1029, Type II, minimum density of 2.4 lb/cu. ft. and minimum aged R-value at 1-inch thickness of 6.2 deg F x h x sq. ft./Btu at 75 deg F.
 - 1. Surface Burning Characteristics: Comply with ASTM E84; testing by a qualified testing agency. Identify products with appropriate markings of applicable testing agency.

- a. Flame-Spread Index: 25 or less.
 - b. Smoke-Developed Index: 450 or less.
2. Fire Propagation Characteristics: Passes NFPA 285 testing as part of an approved assembly.

2.2 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by insulation manufacturer where required for adhesion of insulation to substrates.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Verify that substrates are clean, dry, and free of substances that are harmful to insulation.
- B. Priming: Prime substrates where recommended by insulation manufacturer. Apply primer to comply with insulation manufacturer's written instructions. Confine primers to areas to be insulated; do not allow spillage or migration onto adjoining surfaces.

3.2 INSTALLATION

- A. Comply with insulation manufacturer's written instructions applicable to products and applications.
- B. Spray insulation to envelop entire area to be insulated and fill voids.
- C. Apply in multiple passes to not exceed maximum thicknesses recommended by manufacturer. Do not spray into rising foam.
- D. Framed Construction: Install into cavities formed by framing members to achieve thickness indicated on Drawings.
- E. Cavity Walls: Install into cavities to fully fill void.
- F. Miscellaneous Voids: Apply according to manufacturer's written instructions.

3.3 PROTECTION

- A. Protect installed insulation from damage due to harmful weather exposures, physical abuse, and other causes.

END OF SECTION 072119

SECTION 072500 - WEATHER BARRIERS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Building wrap

1.3 ACTION SUBMITTALS

- A. Product Data: For each type of product.
 - 1. For building wrap, include data on air and water-vapor permeance based on testing according to referenced standards.
- B. Shop Drawings: Show details of building wrap at terminations, openings, and penetrations. Show details of flexible flashing applications.

1.4 INFORMATIONAL SUBMITTALS

- A. Evaluation Reports: For water-resistive barrier, from ICC-ES.

PART 2 - PRODUCTS

2.1 WATER-RESISTIVE BARRIER

- A. Building Wrap: ASTM E1677, Type I air barrier; with flame-spread and smoke-developed indexes of less than 25 and 450, respectively, when tested according to ASTM E84; UV stabilized; and acceptable to authorities having jurisdiction.
 - 1. Water-Vapor Permeance: Not less than .05 perms per ASTM E96, Desiccant Method (Procedure A).
 - 2. Air Permeance: Not more than 0.004 cfm/sq. ft. at 0.3-inch wg when tested according to ASTM E2178.
 - 3. Allowable UV Exposure Time: Not less than three months.
 - 4. Flame Propagation Test: Materials and construction shall be as tested according to NFPA 285.

- B. Building-Wrap Tape: Pressure-sensitive plastic tape recommended by building-wrap manufacturer for sealing joints and penetrations in building wrap.

PART 3 - EXECUTION

3.1 WATER-RESISTIVE BARRIER INSTALLATION

- A. Cover exposed exterior surface of sheathing with water-resistive barrier securely fastened to framing immediately after sheathing is installed.
- B. Cover sheathing with water-resistive barrier as follows:
 - 1. Cut back barrier 1/2 inch on each side of the break in supporting members at expansion- or control-joint locations.
 - 2. Apply barrier to cover vertical flashing with a minimum 4-inch overlap unless otherwise indicated.
- C. Building Wrap: Comply with manufacturer's written instructions and warranty requirements.
 - 1. Seal seams, edges, fasteners, and penetrations with tape.
 - 2. Extend into jambs of openings and seal corners with tape.

END OF SECTION 072500

SECTION 074646 - FIBER-CEMENT SIDING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes fiber-cement siding.
- B. Related Requirements:
 - 1. Section 061000 "Rough Carpentry" for wood furring, grounds, nailers, and blocking.
 - 2. Section 072500 "Weather Barriers" for weather-resistive barriers.

1.3 COORDINATION

- A. Coordinate siding installation with flashings and other adjoining construction to ensure proper sequencing.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include construction details, material descriptions, dimensions of individual components and profiles, and finishes.
- B. Samples for Initial Selection: For fiber-cement siding including related accessories.
- C. Samples for Verification: For each type, color, texture, and pattern required.
 - 1. 12-inch- long-by-actual-width Sample of siding.
 - 2. 12-inch- long-by-actual-width Samples of trim and accessories.

1.5 INFORMATIONAL SUBMITTALS

- A. Product Certificates: For each type of fiber-cement siding.
- B. Product Test Reports: Based on evaluation of comprehensive tests performed by a qualified testing agency, for fiber-cement siding.

- C. Research/Evaluation Reports: For each type of fiber-cement siding required, from ICC-ES.

1.6 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For each type of product, including related accessories, to include in maintenance manuals.

1.7 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
 - 1. Furnish full lengths of fiber-cement siding including related accessories, in a quantity equal to 2 percent of amount installed.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store packaged materials in original containers with labels intact until time of use.
- B. Store materials on elevated platforms, under cover, and in a dry location.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain products, including related accessories, from single source from single manufacturer.

2.2 FIBER-CEMENT SIDING

- A. General: ASTM C1186, Type A, Grade II, fiber-cement board, noncombustible when tested according to ASTM E136; with a flame-spread index of 25 or less when tested according to ASTM E84.
- B. Labeling: Provide fiber-cement siding that is tested and labeled according to ASTM C1186 by a qualified testing agency acceptable to authorities having jurisdiction.
- C. Nominal Thickness: Not less than 5/16 inch.
- D. Horizontal Pattern: Boards Match existing cement board siding.
 - 1. Texture: Match existing cement board siding
- E. Panel Texture: 48-inch x 96" sheets with sand grooved texture.

- F. Factory Priming: Manufacturer's standard acrylic primer.

2.3 ACCESSORIES

- A. Siding Accessories, General: Provide starter strips, edge trim, outside and inside corner caps, and other items as recommended by siding manufacturer for building configuration.
 - 1. Provide accessories matching color and texture of adjacent siding unless otherwise indicated.
- B. Fasteners:
 - 1. For fastening to wood, use siding nails of sufficient length to penetrate a minimum of 1 inch into substrate.
 - 2. For fastening fiber cement, use hot-dip galvanized fasteners.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates for compliance with requirements for installation tolerances and other conditions affecting performance of fiber-cement siding and related accessories.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

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

3.3 INSTALLATION

- A. General: Comply with manufacturer's written installation instructions applicable to products and applications indicated unless more stringent requirements apply.
 - 1. Do not install damaged components.
 - 2. Install fasteners no more than 24 inches o.c.
- B. Install joint sealants as specified in Section 079200 "Joint Sealants" and to produce a weathertight installation.

3.4 ADJUSTING AND CLEANING

- A. Remove damaged, improperly installed, or otherwise defective materials and replace with new materials complying with specified requirements.

- B. Clean finished surfaces according to manufacturer's written instructions and maintain in a clean condition during construction.

END OF SECTION 074646

SECTION 075216 - STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS MEMBRANE ROOFING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

A. Section Includes:

1. Styrene-butadiene-styrene (SBS)-modified bituminous membrane roofing.
2. Hybrid roofing system that combines built-up ply sheets with styrene-butadiene-styrene (SBS)-modified bituminous cap sheet.
3. Substrate board.
4. Vapor retarder.
5. Roof insulation.
6. Cover board.

B. Related Requirements:

1. **[Section 061000 "Rough Carpentry"] [Section 061053 "Miscellaneous Rough Carpentry"]** for wood nailers, curbs, and blocking, and for wood-based, structural-use roof deck panels.
2. Section 061600 "Sheathing" for wood-based, structural-use roof deck panels.
3. Section 072100 "Thermal Insulation" for insulation beneath the roof deck.
4. Section 076200 "Sheet Metal Flashing and Trim" for metal roof flashings and counterflashings.
5. Section 077100 "Roof Specialties" for **[premanufactured metal copings] [roof edge fasciae] [gravel stops] [reglets] [roof edge flashings] [counterflashings]**.
6. Section 079200 "Joint Sealants" for joint sealants, joint fillers, and joint preparation.
7. Section 221423 "Storm Drainage Piping Specialties" for roof drains.

1.3 DEFINITIONS

- A. Roofing Terminology: Definitions in ASTM D1079 and glossary of NRCA's "The NRCA Roofing Manual: Membrane Roof Systems" apply to Work of this Section.

1.4 PREINSTALLATION MEETINGS

A. Preinstallation Roofing Conference: Conduct conference at **Project site**.

1. Meet with Owner, Architect, Owner's insurer if applicable, testing and inspecting agency representative, roofing Installer, roofing system manufacturer's representative, deck Installer, air barrier Installer, and installers whose work interfaces with or affects roofing, including installers of roof accessories and roof-mounted equipment.
2. Review methods and procedures related to roofing installation, including manufacturer's written instructions.
3. Review and finalize construction schedule, and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
4. Examine deck substrate conditions and finishes for compliance with requirements, including flatness and fastening.
5. Review structural loading limitations of roof deck during and after roofing.
6. Review base flashings, special roofing details, roof drainage, roof penetrations, equipment curbs, and condition of other construction that affects roofing system.
7. Review governing regulations and requirements for insurance and certificates if applicable.
8. Review temporary protection requirements for roofing system during and after installation.
9. Review roof observation and repair procedures after roofing installation.

1.5 ACTION SUBMITTALS

A. Product Data: For each type of product.

1. For insulation and roof system component fasteners, include copy of SPRI's Directory of Roof Assemblies listing.

B. Shop Drawings: Include plans, sections, details, and attachments to other work, including the following:

1. Layout and thickness of insulation.
2. Base flashings and membrane terminations.
3. Flashing details at penetrations.
4. Tapered insulation, including slopes.
5. Roof plan showing orientation of wood roof deck and orientation of roof membrane, fastening spacings, and patterns for mechanically fastened roofing system.
6. Crickets, saddles, and tapered edge strips, including slopes.
7. Insulation fastening patterns for corner, perimeter, and field-of-roof locations.

C. Samples for Verification: For the following products:

1. Cap Sheet: Samples of manufacturer's standard colors for selection by Architect

2. Flashing Sheet: Samples of manufacturer's standard colors for selection by Architect].
 3. Aggregate surfacing material in gradation and color required.
 4. Walkway Pads: Samples of manufacturer's standard colors for selection by Architect
- D. Wind Uplift Resistance Submittal: For roofing system indicating compliance with wind uplift performance requirements.

1.6 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For Installer manufacturer and testing agency.
- B. Manufacturer Certificates:
1. Performance Requirement Certificate: Signed by roof membrane manufacturer certifying that roofing system complies with requirements specified in "Performance Requirements" Article.
 - a. Submit evidence of complying with performance requirements.
 2. Special Warranty Certificate: Signed by roof membrane manufacturer, certifying that all materials supplied under this Section are acceptable for special warranty.
- C. Product Test Reports: For roof membrane and insulation, tests performed by a qualified testing agency, indicating compliance with specified requirements.
- D. Evaluation Reports: For components of membrane roofing system, from ICC-ES.
- E. Field Test Reports:
1. Fastener-pullout test results and manufacturer's revised requirements for fastener patterns.
- F. Field quality-control reports.
- G. Sample Warranties: For manufacturer's special warranties.

1.7 CLOSEOUT SUBMITTALS

- A. Maintenance Data: For roofing system to include in maintenance manuals.
- B. Certified statement from existing roof membrane manufacturer stating that existing roof warranty has not been affected by Work performed under this Section.

1.8 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** A qualified manufacturer that is listed in SPRI's Directory of Roof Assemblies for roofing system identical to that used for this Project.
- B. **Installer Qualifications:** A qualified firm that is approved, authorized, or licensed by roofing system manufacturer to install manufacturer's product and that is eligible to receive manufacturer's special warranty.

1.9 DELIVERY, STORAGE, AND HANDLING

- A. Deliver roofing materials to Project site in original containers with seals unbroken and labeled with manufacturer's name, product brand name and type, date of manufacture, approval or listing agency markings, and directions for storing and mixing with other components.
- B. Store liquid materials in their original undamaged containers in a clean, dry, protected location and within the temperature range required by roofing system manufacturer.
 - 1. Protect stored liquid material from direct sunlight.
 - 2. Discard and legally dispose of liquid material that cannot be applied within its stated shelf life.
- C. Protect roof insulation materials from physical damage and from deterioration by sunlight, moisture, soiling, and other sources.
 - 1. Store in a dry location.
 - 2. Comply with insulation manufacturer's written instructions for handling, storing, and protecting during installation.
- D. Handle and store roofing materials, and place equipment in a manner to avoid permanent deflection of deck.

1.10 FIELD CONDITIONS

- A. **Weather Limitations:** Proceed with installation only when existing and forecasted weather conditions permit roofing system to be installed according to manufacturer's written instructions and warranty requirements.

1.11 WARRANTY

- A. **Special Warranty:** Manufacturer agrees to repair or replace components of roofing system that fail in materials or workmanship within specified warranty period.
 - 1. Special warranty includes roof membrane, base flashings, roof insulation, fasteners, vapor retarder, substrate board and other components of roofing system.

2. Warranty Period: 15 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 PERFORMANCE REQUIREMENTS

- A. General Performance: Installed roofing system and flashings shall withstand specified uplift pressures, thermally induced movement, and exposure to weather without failure due to defective manufacture, fabrication, installation, or other defects in construction. Roof system and flashings shall remain watertight.
 1. Accelerated Weathering: Roof membrane shall withstand 2000 hours of exposure when tested according to ASTM G152, ASTM G154, or ASTM G155.
 2. Impact Resistance: Roof membrane shall resist impact damage when tested according to ASTM D3746, ASTM D4272, or the "Resistance to Foot Traffic Test" in FM Approvals 4470.
- B. Material Compatibility: Roofing materials shall be compatible with one another and adjacent materials under conditions of service and application required, as demonstrated by roof membrane manufacturer based on testing and field experience.
- C. Wind Uplift Resistance: Design roofing system to resist the following wind uplift pressures when tested according to FM Approvals 4474, UL 580, or UL 1897:
 1. Zone 1 (Roof Area Field): +24.6, -75.1 lbf/sq. ft.
 2. Zone 2 (Roof Area Perimeter): +24.6, -75.1 lbf/sq. ft.
 3. Zone 3 (Roof Area Corners): +24.6, -109.5 lbf/sq. ft.
- D. SPRI's Directory of Roof Assemblies Listing: Roof membrane, base flashings, and component materials shall comply with requirements in FM Approvals 4450 or FM Approvals 4470 as part of a roofing system and shall be listed in SPRI's Directory of Roof Assemblies for roof assembly identical to that specified for this Project.
 1. Wind Uplift Load Capacity: 120 psf
- E. Energy Performance: Roofing system shall have an initial solar reflectance of not less than 0.70 and an emissivity of not less than 0.75 when tested according to CRRC-1.
- F. Exterior Fire-Test Exposure: ASTM E108 or UL 790, Class A ; for application and roof slopes indicated; testing by a qualified testing agency.
 1. Identify products with appropriate markings of applicable testing agency.
- G. Fire-Resistance Ratings: Comply with fire-resistance-rated assembly designs indicated.
 1. Identify products with appropriate markings of applicable testing agency.

2.2 MANUFACTURERS

- A. Source Limitations: Obtain components for roofing system from roof membrane manufacturer or manufacturer approved by roof membrane manufacturer.

2.3 BASE SHEET MATERIALS

- A. SBS-Modified Bitumen Polyester Mat Base Sheet: ASTM D6164, Type I, Grade S, SBS-modified asphalt sheet, reinforced with polyester fabric, smooth surfaced, suitable for cold adhesive or hot asphalt application method.
- B. SBS-Modified Bitumen Fiberglass Mat Base Sheet: ASTM D6163, Type I, Grade S, SBS-modified asphalt sheet, reinforced with fiberglass fabric, smooth surfaced, suitable for cold adhesive or hot asphalt application method.
- C. SBS-Modified Bitumen Polyester and Fiberglass Mat Base Sheet: ASTM D6162, Type I, Grade S, SBS-modified asphalt sheet, reinforced with a combination of polyester and fiberglass fabric, smooth surfaced, suitable for cold adhesive or hot asphalt application method.

2.4 INTERPLY SHEETS

- A. Glass-Fiber Interply Sheet: ASTM D2178, asphalt-impregnated, glass-fiber felt.

2.5 STYRENE-BUTADIENE-STYRENE (SBS) MODIFIED BITUMINOUS CAP SHEET

- A. Smooth-Surfaced Roofing Cap Sheet: ASTM D6162, Type I, Grade S, SBS-modified asphalt sheet, reinforced with a combination of polyester and fiberglass fabric, suitable for cold adhesive or hot asphalt application method.

2.6 BASE FLASHING SHEET MATERIALS

- A. Backer Sheet: ASTM D6162, Type I or II, Grade S, SBS-modified asphalt sheet, reinforced with a combination of polyester fabric and glass fibers, smooth surfaced, suitable for application method specified.
- B. Granule-Surfaced Flashing Sheet: ASTM D6162, Type I or II, Grade G, SBS-modified asphalt sheet, reinforced with a combination of polyester fabric and glass fibers, granule surfaced, suitable for application method specified, and as follows:
 - 1. Granule Color: White

2.7 AUXILIARY ROOFING MATERIALS

- A. General: Auxiliary materials recommended by roofing system manufacturer for intended use and compatible with other roofing components.
 - 1. Adhesives and Sealants: Comply with VOC limits of authorities having jurisdiction.
- B. Prefabricated Pipe Flashings: As recommended by roof membrane manufacturer.
- C. Roof Vents: As recommended by roof membrane manufacturer.
 - 1. Size: Not less than 4-inch diameter.
- D. Sheathing Paper: Red-rosin type, minimum 3 lb/100 sq. ft.
- E. Asphalt Roofing Cement: ASTM D4586, asbestos free, of consistency required by roofing system manufacturer for application.
- F. Fasteners: Factory-coated steel fasteners and metal or plastic plates complying with corrosion-resistance provisions in FM Approvals 4470, designed for fastening roofing components to substrate; tested by manufacturer for required pullout strength, and acceptable to roofing system manufacturer.
- G. Roofing Granules: Ceramic-coated roofing granules, No. 11 screen size with 100 percent passing No. 8 sieve and 98 percent of mass retained on No. 40 sieve; color to match roof membrane.
- H. Miscellaneous Accessories: Provide those recommended by roofing system manufacturer.

2.8 VAPOR RETARDER

- A. Self-Adhering-Sheet Vapor Retarder: ASTM D1970 polyethylene film laminated to layer of rubberized asphalt adhesive, minimum 40-mil- total thickness; maximum permeance rating of 0.1 perm; cold applied, with slip-resisting surface and release paper backing. Provide primer when recommended by vapor-retarder manufacturer.

2.9 ASPHALT MATERIALS

- A. Roofing Asphalt: ASTM D6152, SEBS modified.

2.10 WALKWAYS

- A. Walkway Pads: Polymer-modified, reconstituted rubber pads with slip-resisting textured surface, manufactured as a traffic pad for foot traffic and acceptable to roofing system manufacturer, 1/2 inch thick, minimum.

1. Pad Size: Approximately 36 by 60 inches.
2. Color: Contrasting with cap sheet.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
 1. Verify that roof openings and penetrations are in place, curbs are set and braced, and roof-drain bodies are securely clamped in place.
 2. Verify that wood cants, blocking, curbs, and nailers are securely anchored to roof deck at penetrations and terminations and that nailers match thicknesses of insulation.
 3. Verify that deck is securely fastened with no projecting fasteners and with no adjacent units in excess of 1/16 inch out of plane relative to adjoining deck.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Clean substrate of dust, debris, moisture, and other substances detrimental to roofing installation according to roofing system manufacturer's written instructions.
 1. Remove sharp projections.
- B. Prevent materials from entering and clogging conductors and from spilling or migrating onto surfaces of other construction.
 1. Remove roof-drain plugs when no work is taking place or when rain is forecast.
- C. Perform fastener-pullout tests according to roof system manufacturer's recommendations.
 1. Submit test result within 24 hours of performing tests.
 - a. Include manufacturer's requirements for any revision to previously submitted fastener patterns required to achieve specified wind uplift requirements.

3.3 INSTALLATION OF ROOFING, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions, SPRI's Directory of Roof Assemblies listed roof assembly requirements, and FM Global Property Loss Prevention Data Sheet 1-29.

- B. Complete terminations and base flashings, and provide temporary seals to prevent water from entering completed sections of roofing system at the end of the workday or when rain is forecast.
- C. Asphalt Heating: Heat and apply SEBS-modified roofing asphalt according to roofing system manufacturer's written instructions.
- D. Substrate-Joint Penetrations: Prevent roofing asphalt and adhesives from penetrating substrate joints, entering building, or damaging roofing system components or adjacent building construction.

3.4 INSTALLATION OF SUBSTRATE BOARD

- A. Install substrate board with long joints in continuous straight lines, with end joints staggered not less than 24 inches in adjacent rows.
 - 1. Tightly butt substrate boards together.
 - 2. Cut substrate board to fit tight around penetrations and projections, and to fit tight to intersecting sloping roof decks.
 - 3. Loosely lay substrate board over roof deck.

3.5 INSTALLATION OF VAPOR RETARDER

- A. Self-Adhering-Sheet Vapor Retarder: Prime substrate if required by manufacturer. Install self-adhering-sheet vapor retarder over area to receive vapor retarder, side and end lapping each sheet a minimum of 3-1/2 and 6 inches, respectively.
 - 1. Extend vertically up parapet walls and projections to a minimum height equal to height of the insulation and cover board.
 - 2. Seal laps by rolling.
- B. Completely seal vapor retarder at terminations, obstructions, and penetrations to prevent air movement into roofing system.

3.6 INSTALLATION OF INSULATION

- A. Coordinate installing roofing system components, so insulation is not exposed to precipitation or left exposed at the end of the workday.
- B. Comply with roofing system and insulation manufacturer's written instructions for installing roof insulation.
- C. Nailer Strips: Mechanically fasten 4-inch nominal- width, wood nailer strips of same thickness as insulation perpendicular to sloped roof deck.

junctures of roofing system with vertical surfaces or angle changes greater than 45 deg F.

E. Installation Over Wood Panel Decking:

1. Mechanically fasten APP-modified bitumen fiberglass-mat base sheet to roof deck using mechanical fasteners specifically designed and sized for fastening slip sheet to wood panel decks.
 - a. Lap edges a minimum of 2 inches, or as recommended by roof membrane manufacturer.
 - b. Lap ends a minimum of 6 inches, or as recommended by roof membrane manufacturer.
 - c. Fasten APP-modified bitumen fiberglass-mat base sheet according to requirements in SPRI's Directory of Roof Assemblies for specified Wind Uplift Load Capacity.
 - d. Fasten APP-modified bitumen fiberglass-mat base sheet to resist specified uplift pressure at corners, perimeter, and field of roof.
2. Install base layer of insulation with end joints staggered not less than 12 inches in adjacent rows.
 - a. Where installing composite and noncomposite insulation in two or more layers, install noncomposite board insulation for bottom layer and intermediate layers, if applicable, and install composite board insulation for top layer.
 - b. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
 - c. Make joints between adjacent insulation boards not more than 1/4 inch in width.
 - d. Fill gaps exceeding 1/4 inch with insulation.
 - e. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
 - f. Adhere base layer of insulation to substrate using adhesive as follows:
 - 1) Set base layer of insulation in a solid mopping of hot roofing asphalt, applied within plus or minus 25 deg F of equiviscous temperature.
 - 2) Set base layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
 - 3) Set base layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.
3. Install upper layers of insulation and tapered insulation, with joints of each layer offset not less than 12 inches from previous layer of insulation.

- a. Staggered end joints within each layer not less than 24 inches in adjacent rows.
- b. Install with long joints continuous and with end joints staggered not less than 12 inches in adjacent rows.
- c. Trim insulation neatly to fit around penetrations and projections, and to fit tight to intersecting sloping roof decks.
- d. Make joints between adjacent insulation boards not more than 1/4 inch in width.
- e. Fill gaps exceeding 1/4 inch with insulation.
- f. Cut and fit insulation within 1/4 inch of nailers, projections, and penetrations.
- g. Adhere each layer of insulation to substrate using adhesive according to SPRI's Directory of Roof Assemblies listed roof assembly requirements for specified Wind Uplift Load Capacity and FM Global Property Loss Prevention Data Sheet 1-29, as follows:
 - 1) Set each layer of insulation in a solid mopping of hot roofing asphalt, applied within plus or minus 25 deg F of equiviscous temperature.
 - 2) Set each layer of insulation in ribbons of bead-applied insulation adhesive, firmly pressing and maintaining insulation in place.
 - 3) Set each layer of insulation in a uniform coverage of full-spread insulation adhesive, firmly pressing and maintaining insulation in place.

3.7 INSTALLATION OF ROOFING MEMBRANE, GENERAL

- A. Install roofing system according to roofing system manufacturer's written instructions and applicable recommendations in ARMA/NRCA's "Quality Control Guidelines for the Application of Polymer Modified Bitumen Roofing."
- B. Start installation of roofing in presence of roofing system manufacturer's technical personnel.
- C. Coordinate installation of roofing system so insulation and other components of the roofing system not permanently exposed are not subjected to precipitation or left uncovered at the end of the workday or when rain is forecast.
 1. Provide tie-offs at end of each day's work to cover exposed roofing sheets and insulation with a course of coated felt set in roofing cement or hot roofing asphalt, with joints and edges sealed.
 2. Complete terminations and base flashings, and provide temporary seals to prevent water from entering completed sections of roofing system.
 3. Remove and discard temporary seals before beginning work on adjoining roofing.

3.8 INSTALLATION OF BASE SHEET

- A. Before installing, unroll base sheet, cut into workable lengths, and allow to lie flat for a time period recommended by manufacturer for the ambient temperature.
- B. Loosely lay one course of sheathing paper, lapping edges and ends a minimum of 2 inches and 6 inches, respectively.
- C. Installation of SBS-Modified Bitumen Polyester and Fiberglass-Mat Base Sheet:
 - 1. Install base sheet according to roofing manufacturer's written instructions, starting at low point of roofing system.
 - 2. Extend roofing sheets over and terminate above cants.
 - 3. Install base sheet in a shingle fashion.
 - 4. Adhere to substrate in a uniform coating of cold-applied adhesive.
 - 5. Mechanically attach base sheet to roof deck using mechanical fasteners specifically designed and sized for fastening base sheet to wood panel decks.
 - a. Fasten base sheet to resist specified uplift pressure at corners, perimeter, and field of roof.
 - 6. Install base sheet without wrinkles, rears, and free from air pockets.
 - 7. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps.
 - a. Lap side laps as recommended by roof membrane manufacturer but not less than 3 inches.
 - b. Lap end laps as recommended by roof membrane manufacturer but not less than 12 inches.
 - c. Stagger end laps not less than 18 inches.
 - d. Completely bond and seal laps, leaving no voids.
 - e. Roll laps with a 20-pound roller.
 - 8. Repair tears and voids in laps and lapped seams not completely sealed.
 - 9. Apply pressure to the body of the base sheet according to manufacturer's instructions, to remove air pockets and to result in complete adhesion of base sheet to substrate.

3.9 INSTALLATION OF INTERPLY SHEETS

- A. Install three ply sheets, starting at low point of roofing.
 - 1. Align ply sheets without stretching.
 - 2. Shingle side laps of ply sheets uniformly to achieve required number of plies throughout thickness of roofing membrane.
 - a. Shingle in direction to shed water.
 - 3. Extend ply sheets over and terminate above cants.

3.10 INSTALLATION OF SBS-MODIFIED BITUMINOUS CAP SHEET

- A. Before installing, unroll cap sheet, cut into workable lengths, and allow to lie flat for a time period recommended by manufacturer for the ambient temperature at which cap sheet will be installed.
- B. Install modified bituminous roofing cap sheet according to roofing manufacturer's written instructions, starting at low point of roofing system.
 - 1. Extend cap sheet over and terminate above cants.
 - 2. Install cap sheet in a shingle fashion.
 - 3. Install cap sheet as follows:
 - a. Adhere to substrate in a solid mopping of hot roofing asphalt applied at asphalt temperature recommended by cap sheet manufacturer.
 - 4. Install cap sheet without wrinkles or tears, and free from air pockets.
 - 5. Install cap sheet, so side and end laps shed water.
- C. Laps: Accurately align roofing sheets, without stretching, and maintain uniform side and end laps.
 - 1. Lap side laps as recommended by roof membrane manufacturer but not less than 3 inches.
 - 2. Lap end laps as recommended by roof membrane manufacturer but not less than 12 inches.
 - 3. Stagger end laps not less than 18 inches.
 - 4. Completely bond and seal laps, leaving no voids.
 - 5. Roll laps with a 20-pound roller.
 - 6. Repair tears and voids in laps and lapped seams not completely sealed.
- D. Apply pressure to the body of the cap sheet according to manufacturer's instructions, to remove air pockets and to result in complete adhesion of base sheet to substrate.
- E. Apply roofing granules of same color as roof membrane to cover exuded bead at laps while bead is hot, to provide a continuous color appearance.
- F. Aggregate Surfacing: After installing and testing roofing, base flashing, and stripping, promptly apply flood coat to roof surface with 60 lb/100 sq. ft. of hot roofing asphalt. While flood coat is hot and fluid, cast the following average weight of aggregate in a uniform course:
 - 1. Aggregate Weight: 400 lb/100 sq. ft.

3.11 INSTALLATION OF FLASHING AND STRIPPING

- A. Install base flashing over cant strips and other sloped and vertical surfaces, at roof edges, and at penetrations through roof, and secure to substrates according to roofing system manufacturer's written instructions and as follows:

1. Prime substrates with asphalt primer if required by roofing system manufacturer.
 2. Backer Sheet Application:
 - a. Mechanically fasten backer sheet to walls or parapets.
 - b. Adhere backer sheet over roofing membrane at cants in a solid mopping of hot roofing asphalt.
 - c. Seal all laps.
 3. Backer Sheet Application:
 - a. Adhere backer sheet to substrate in a solid mopping of hot roofing asphalt.
 - b. Seal all laps.
 4. Flashing Sheet Application: Adhere flashing sheet to substrate in a solid mopping of hot roofing asphalt applied at asphalt temperature recommended by flashing sheet manufacturer. Apply hot roofing asphalt to back of flashing sheet if recommended by roofing system manufacturer.
- B. Extend base flashing up walls or parapets a minimum of 8 inches above roofing membrane and 4 inches onto field of roofing membrane.
- C. Mechanically fasten top of base flashing securely at terminations and perimeter of roofing.
1. Seal top termination of base flashing with a strip of glass-fiber fabric set in asphalt roofing cement.
- D. Install roofing cap-sheet stripping where metal flanges and edgings are set on roofing according to roofing system manufacturer's written instructions.

3.12 INSTALLATION OF WALKWAYS

- A. Walkway Pads: Install walkway pads using units of size indicated or, if not indicated, of manufacturer's standard size, according to walkway pad manufacturer's written instructions.
1. Install walkways at the following locations:
 - a. Perimeter of each rooftop unit.
 2. Provide 3-inch clearance between adjoining pads.
 3. Heat weld to substrate or adhere walkway products to substrate with compatible adhesive according to roofing system manufacturer's written instructions.

3.13 FIELD QUALITY CONTROL

- A. Testing Agency: Engage a qualified testing agency to inspect substrate conditions, surface preparation, roof membrane application, flashings, protection, and drainage components, and to furnish reports to Architect.
1. Testing agency shall prepare survey report indicating locations of initial discontinuities, if any.

- B. Final Roof Inspection: Arrange for roofing system manufacturer's technical personnel to inspect roofing installation on completion, in presence of Architect, and to prepare inspection report.
 - 1. Notify Architect and Owner 48 hours in advance of date and time of inspection.
- C. Repair or remove and replace components of roofing system where inspections indicate that they do not comply with specified requirements.
- D. Roofing system will be considered defective if it does not pass tests and inspections.
 - 1. Additional testing and inspecting, at Contractor's expense, will be performed to determine if replaced or additional work complies with specified requirements.

3.14 PROTECTING AND CLEANING

- A. Protect roofing system from damage and wear during remainder of construction period.
 - 1. When remaining construction does not affect or endanger roofing, inspect roofing system for deterioration and damage, describing its nature and extent in a written report, with copies to Architect and Owner.
- B. Correct deficiencies in or remove roofing system that does not comply with requirements, repair substrates, and repair or reinstall roofing system to a condition free of damage and deterioration at time of Substantial Completion and according to warranty requirements.
- C. Clean overspray and spillage from adjacent construction using cleaning agents and procedures recommended by manufacturer of affected construction.

3.15 ROOFING INSTALLER'S WARRANTY

- A. WHEREAS _____ of _____, herein called the "Roofing Installer," has performed roofing and associated work ("work") on the following project:
 - 1. Owner: **<Insert name of Owner>**.
 - 2. Address: **<Insert address>**.
 - 3. Building Name/Type: **<Insert information>**.
 - 4. Address: **<Insert address>**.
 - 5. Area of Work: **<Insert information>**.
 - 6. Acceptance Date: _____.
 - 7. Warranty Period: **<Insert time>**.
 - 8. Expiration Date: _____.
- B. AND WHEREAS Roofing Installer has contracted (either directly with Owner or indirectly as a subcontractor) to warrant said work against leaks and faulty or defective materials and workmanship for designated Warranty Period,

herein set forth, that during Warranty Period Roofing Installer will, at Roofing Installer's own cost and expense, make or cause to be made such repairs to or replacements of said work as are necessary to correct faulty and defective work and as are necessary to maintain said work in a watertight condition.

D. This Warranty is made subject to the following terms and conditions:

1. Specifically excluded from this Warranty are damages to work and other parts of the building, and to building contents, caused by:
 - a. lightning;
 - b. peak gust wind speed exceeding 160 mph;
 - c. fire;
 - d. failure of roofing system substrate, including cracking, settlement, excessive deflection, deterioration, and decomposition;
 - e. faulty construction of parapet walls, copings, chimneys, skylights, vents, equipment supports, and other edge conditions and penetrations of the work;
 - f. vapor condensation on bottom of roofing; and
 - g. activity on roofing by others, including construction contractors, maintenance personnel, other persons, and animals, whether authorized or unauthorized by Owner.
2. When work has been damaged by any of foregoing causes, Warranty shall be null and void until such damage has been repaired by Roofing Installer and until cost and expense thereof have been paid by Owner or by another responsible party so designated.
3. Roofing Installer is responsible for damage to work covered by this Warranty but is not liable for consequential damages to building or building contents resulting from leaks or faults or defects of work.
4. During Warranty Period, if Owner allows alteration of work by anyone other than Roofing Installer, including cutting, patching, and maintenance in connection with penetrations, attachment of other work, and positioning of anything on roof, this Warranty shall become null and void on date of said alterations, but only to the extent said alterations affect work covered by this Warranty. If Owner engages Roofing Installer to perform said alterations, Warranty shall not become null and void unless Roofing Installer, before starting said work, shall have notified Owner in writing, showing reasonable cause for claim, that said alterations would likely damage or deteriorate work, thereby reasonably justifying a limitation or termination of this Warranty.
5. During Warranty Period, if original use of roof is changed and it becomes used for, but was not originally specified for, a promenade, work deck, spray-cooled surface, flooded basin, or other use or service more severe than originally specified, this Warranty shall become null and void on date of said change, but only to the extent said change affects work covered by this Warranty.
6. Owner shall promptly notify Roofing Installer of observed, known, or suspected leaks, defects, or deterioration and shall afford reasonable opportunity for Roofing Installer to inspect work and to examine evidence of such leaks, defects, or deterioration.

work and shall not operate to restrict or cut off Owner from other remedies and resources lawfully available to Owner in cases of roofing failure. Specifically, this Warranty shall not operate to relieve Roofing Installer of responsibility for performance of original work according to requirements of the Contract Documents, regardless of whether Contract was a contract directly with Owner or a subcontract with Owner's General Contractor.

E. IN WITNESS THEREOF, this instrument has been duly executed this _____ day of _____, _____.

1. Authorized Signature: _____.
2. Name: _____.
3. Title: _____.

END OF SECTION 075216

SECTION 079200 - JOINT SEALANTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Silicone joint sealants.

1.3 ACTION SUBMITTALS

- A. Product Data: For each joint-sealant product.
- B. Samples for Initial Selection: Manufacturer's color charts consisting of strips of cured sealants showing the full range of colors available for each product exposed to view.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified testing agency.
- B. Product Test Reports: For each kind of joint sealant, for tests performed by a qualified testing agency.

1.5 FIELD CONDITIONS

- A. Do not proceed with installation of joint sealants under the following conditions:
 - 1. When ambient and substrate temperature conditions are outside limits permitted by joint-sealant manufacturer or are below 40 deg F.
 - 2. When joint substrates are wet.
 - 3. Where joint widths are less than those allowed by joint-sealant manufacturer for applications indicated.
 - 4. Where contaminants capable of interfering with adhesion have not yet been removed from joint substrates.

1.6 WARRANTY

- A. Special Installer's Warranty: Installer agrees to repair or replace joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Two years from date of Substantial Completion.
- B. Special Manufacturer's Warranty: Manufacturer agrees to furnish joint sealants to repair or replace those joint sealants that do not comply with performance and other requirements specified in this Section within specified warranty period.
 - 1. Warranty Period: Five years from date of Substantial Completion.
- C. Special warranties specified in this article exclude deterioration or failure of joint sealants from the following:
 - 1. Movement of the structure caused by stresses on the sealant exceeding sealant manufacturer's written specifications for sealant elongation and compression.
 - 2. Disintegration of joint substrates from causes exceeding design specifications.
 - 3. Mechanical damage caused by individuals, tools, or other outside agents.
 - 4. Changes in sealant appearance caused by accumulation of dirt or other atmospheric contaminants.

PART 2 - PRODUCTS

2.1 JOINT SEALANTS, GENERAL

- A. Compatibility: Provide joint sealants, backings, and other related materials that are compatible with one another and with joint substrates under conditions of service and application, as demonstrated by joint-sealant manufacturer, based on testing and field experience.
- B. Colors of Exposed Joint Sealants: As selected by Architect from manufacturer's full range.

2.2 SILICONE JOINT SEALANTS

- A. Silicone, S, NS, 35, NT: Single-component, nonsag, plus 35 percent and minus 35 percent movement capability. nontraffic-use, neutral-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 35, Use NT.

2.3 NONSTAINING SILICONE JOINT SEALANTS

- A. Nonstaining Joint Sealants: No staining of substrates when tested according to ASTM C1248.

- B. Silicone, Nonstaining, S, NS, 50, NT: Nonstaining, single-component, nonsag, plus 50 percent and minus 50 percent movement capability, nontraffic-use, neutral-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 50, Use NT.

2.4 MILDEW-RESISTANT JOINT SEALANTS

- A. Mildew-Resistant Joint Sealants: Formulated for prolonged exposure to humidity with fungicide to prevent mold and mildew growth.
- B. Silicone, Mildew Resistant, Acid Curing, S, NS, 25, NT: Mildew-resistant, single-component, nonsag, plus 25 percent and minus 25 percent movement capability, nontraffic-use, acid-curing silicone joint sealant; ASTM C920, Type S, Grade NS, Class 25, Use NT.

2.5 JOINT-SEALANT BACKING

- A. Sealant Backing Material, General: Nonstaining; compatible with joint substrates, sealants, primers, and other joint fillers; and approved for applications indicated by sealant manufacturer based on field experience and laboratory testing.
- B. Cylindrical Sealant Backings: ASTM C1330, Type C (closed-cell material with a surface skin) and of size and density to control sealant depth and otherwise contribute to producing optimum sealant performance.
- C. Bond-Breaker Tape: Polyethylene tape or other plastic tape recommended by sealant manufacturer for preventing sealant from adhering to rigid, inflexible joint-filler materials or joint surfaces at back of joint. Provide self-adhesive tape where applicable.

2.6 MISCELLANEOUS MATERIALS

- A. Primer: Material recommended by joint-sealant manufacturer where required for adhesion of sealant to joint substrates indicated, as determined from preconstruction joint-sealant-substrate tests and field tests.
- B. Cleaners for Nonporous Surfaces: Chemical cleaners acceptable to manufacturers of sealants and sealant backing materials, free of oily residues or other substances capable of staining or harming joint substrates and adjacent nonporous surfaces in any way, and formulated to promote optimum adhesion of sealants to joint substrates.
- C. Masking Tape: Nonstaining, nonabsorbent material compatible with joint sealants and surfaces adjacent to joints.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine joints indicated to receive joint sealants, with Installer present, for compliance with requirements for joint configuration, installation tolerances, and other conditions affecting performance of the Work.
- B. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. Surface Cleaning of Joints: Clean out joints immediately before installing joint sealants to comply with joint-sealant manufacturer's written instructions and the following requirements:
 - 1. Remove all foreign material from joint substrates that could interfere with adhesion of joint sealant, including dust, paints (except for permanent, protective coatings tested and approved for sealant adhesion and compatibility by sealant manufacturer), old joint sealants, oil, grease, waterproofing, water repellents, water, surface dirt, and frost.
 - 2. Clean porous joint substrate surfaces by brushing, grinding, mechanical abrading, or a combination of these methods to produce a clean, sound substrate capable of developing optimum bond with joint sealants. Remove loose particles remaining after cleaning operations above by vacuuming or blowing out joints with oil-free compressed air. Porous joint substrates include the following:
 - a. Concrete.
 - b. Exterior insulation and finish systems.
 - 3. Clean nonporous joint substrate surfaces with chemical cleaners or other means that do not stain, harm substrates, or leave residues capable of interfering with adhesion of joint sealants. Nonporous joint substrates include the following:
 - a. Exterior fiber-cement finishes
- B. Joint Priming: Prime joint substrates where recommended by joint-sealant manufacturer or as indicated by preconstruction joint-sealant-substrate tests or prior experience. Apply primer to comply with joint-sealant manufacturer's written instructions. Confine primers to areas of joint-sealant bond; do not allow spillage or migration onto adjoining surfaces.
- C. Masking Tape: Use masking tape where required to prevent contact of sealant or primer with adjoining surfaces that otherwise would be permanently stained or damaged by such contact or by cleaning methods required to remove sealant smears. Remove tape immediately after tooling without disturbing joint seal.

3.3 INSTALLATION OF JOINT SEALANTS

- A. General: Comply with joint-sealant manufacturer's written installation instructions for products and applications indicated, unless more stringent requirements apply.
- B. Sealant Installation Standard: Comply with recommendations in ASTM C1193 for use of joint sealants as applicable to materials, applications, and conditions indicated.
- C. Install sealant backings of kind indicated to support sealants during application and at position required to produce cross-sectional shapes and depths of installed sealants relative to joint widths that allow optimum sealant movement capability.
 - 1. Do not leave gaps between ends of sealant backings.
 - 2. Do not stretch, twist, puncture, or tear sealant backings.
 - 3. Remove absorbent sealant backings that have become wet before sealant application, and replace them with dry materials.
- D. Install bond-breaker tape behind sealants where sealant backings are not used between sealants and backs of joints.
- E. Install sealants using proven techniques that comply with the following and at the same time backings are installed:
 - 1. Place sealants so they directly contact and fully wet joint substrates.
 - 2. Completely fill recesses in each joint configuration.
 - 3. Produce uniform, cross-sectional shapes and depths relative to joint widths that allow optimum sealant movement capability.
- F. Tooling of Nonsag Sealants: Immediately after sealant application and before skinning or curing begins, tool sealants according to requirements specified in subparagraphs below to form smooth, uniform beads of configuration indicated; to eliminate air pockets; and to ensure contact and adhesion of sealant with sides of joint.
 - 1. Remove excess sealant from surfaces adjacent to joints.
 - 2. Use tooling agents that are approved in writing by sealant manufacturer and that do not discolor sealants or adjacent surfaces.
 - 3. Provide concave joint profile per Figure 8A in ASTM C1193 unless otherwise indicated.

3.4 CLEANING

- A. Clean off excess sealant or sealant smears adjacent to joints as the Work progresses by methods and with cleaning materials approved in writing by manufacturers of joint sealants and of products in which joints occur.

3.5 PROTECTION

- A. Protect joint sealants during and after curing period from contact with contaminating substances and from damage resulting from construction operations or other causes

so sealants are without deterioration or damage at time of Substantial Completion. If, despite such protection, damage or deterioration occurs, cut out, remove, and repair damaged or deteriorated joint sealants immediately so installations with repaired areas are indistinguishable from original work.

END OF SECTION 079200

SECTION 092900 - GYPSUM BOARD

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:
 - 1. Interior gypsum board.
 - 2. Exterior gypsum board for ceilings and soffits.
 - 3. Texture finishes.

1.3 ACTION SUBMITTALS

- A. Product Data: For the following:
 - 1. Gypsum wallboard.
 - 2. Gypsum ceiling board.
 - 3. Mold-resistant gypsum board.
- B. Samples: For the following products:
 - 1. Textured Finishes: Manufacturer's standard size for each textured finish indicated and on same backing indicated for Work.
- C. Samples for Initial Selection: For each type of textured finish indicated.

1.4 DELIVERY, STORAGE AND HANDLING

- A. Store materials inside under cover and keep them dry and protected against weather, condensation, direct sunlight, construction traffic, and other potential causes of damage. Stack panels flat and supported on risers on a flat platform to prevent sagging.

1.5 FIELD CONDITIONS

- A. Environmental Limitations: Comply with ASTM C840 requirements or gypsum board manufacturer's written instructions, whichever are more stringent.

- B. Do not install paper-faced gypsum panels until installation areas are enclosed and conditioned.
- C. Do not install panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

PART 2 - PRODUCTS

2.1 GYPSUM BOARD, GENERAL

- A. Size: Provide maximum lengths and widths available that will minimize joints in each area and that correspond with support system indicated.

2.2 INTERIOR GYPSUM BOARD

- A. Gypsum Ceiling Board: ASTM C1396.
 - 1. Thickness: 5/8 inch .
 - 2. Long Edges: Tapered.
- B. Mold-Resistant Gypsum Board: ASTM C1396. With moisture- and mold-resistant core and paper surfaces.
 - 1. Core: As indicated
 - 2. Long Edges: Tapered.
 - 3. Mold Resistance: ASTM D3273, score of 10 as rated according to ASTM D3274.

2.3 JOINT TREATMENT MATERIALS

- A. General: Comply with ASTM C475.
- B. Joint Tape:
 - 1. Interior Gypsum Board: Paper.
- C. Joint Compound for Interior Gypsum Board: For each coat, use formulation that is compatible with other compounds applied on previous or for successive coats.
 - 1. Prefilling: At open joints and damaged surface areas, use setting-type taping compound.
 - 2. Embedding and First Coat: For embedding tape and first coat on joints, fasteners, and trim flanges, use all-purpose compound.
 - a. Use setting-type compound for installing paper-faced metal trim accessories.

3. Fill Coat: For second coat, use drying-type, all-purpose compound.
4. Finish Coat: For third coat, use drying-type, all-purpose compound.

2.4 AUXILIARY MATERIALS

- A. Provide auxiliary materials that comply with referenced installation standards and manufacturer's written instructions.
- B. Steel Drill Screws: ASTM C1002 unless otherwise indicated.
- C. Thermal Insulation: As specified in Section 072100 "Thermal Insulation."

2.5 TEXTURE FINISHES

- A. Primer: As recommended by textured finish manufacturer.
- B. Non-Aggregate Finish: Premixed, vinyl texture finish for spray application.
 1. Texture: Light knock-down

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine areas and substrates with Installer present, for compliance with requirements and other conditions affecting performance of the Work.
- B. Examine panels before installation. Reject panels that are wet, moisture damaged, and mold damaged.
- C. Proceed with installation only after unsatisfactory conditions have been corrected.

3.2 INSTALLATION AND FINISHING OF PANELS, GENERAL

- A. Comply with ASTM C840.
- B. Install ceiling panels across framing to minimize the number of abutting end joints and to avoid abutting end joints in central area of each ceiling. Stagger abutting end joints of adjacent panels not less than one framing member.
- C. Install panels with face side out. Butt panels together for a light contact at edges and ends with not more than 1/16 inch of open space between panels. Do not force into place.
- D. Locate edge and end joints over supports, except in ceiling applications where intermediate supports or gypsum board back-blocking is provided behind end joints. Do not place tapered edges against cut edges or ends. Stagger vertical joints on opposite

sides of partitions. Do not make joints other than control joints at corners of framed openings.

- E. Form control and expansion joints with space between edges of adjoining gypsum panels.
- F. Wood Framing: Install gypsum panels over wood framing, with floating internal corner construction. Do not attach gypsum panels across the flat grain of wide-dimension lumber, including floor joists and headers. Float gypsum panels over these members or provide control joints to counteract wood shrinkage.

3.3 INSTALLATION OF INTERIOR GYPSUM BOARD

- A. Install interior gypsum board in the following locations:
 - 1. Ceiling Type: Ceiling surfaces
 - 2. Mold-Resistant Type: Upper ½ of wall, above PVC wall finish.
- B. Single-Layer Application:
 - 1. On ceilings, apply gypsum panels before wall/partition board application to greatest extent possible and at right angles to framing unless otherwise indicated.
 - 2. On partitions/walls, apply gypsum panels horizontally (perpendicular to framing, unless otherwise indicated or required by fire-resistance-rated assembly, and minimize end joints.
 - a. Stagger abutting end joints not less than one framing member in alternate courses of panels.
 - 3. On Z-shaped furring members, apply gypsum panels vertically (parallel to framing) with no end joints. Locate edge joints over furring members.
 - 4. Fastening Methods: Apply gypsum panels to supports with steel drill screws.

3.4 INSTALLATION OF EXTERIOR GYPSUM PANELS FOR CEILINGS

- A. Apply panels perpendicular to supports, with end joints staggered and located over supports.
 - 1. Install with 1/4-inch open space where panels abut other construction or structural penetrations.
 - 2. Fasten with corrosion-resistant screws.

3.5 FINISHING GYPSUM BOARD

- A. General: Treat gypsum board joints, interior angles, edge trim, control joints, penetrations, fastener heads, surface defects, and elsewhere as required to prepare gypsum board surfaces for decoration. Promptly remove residual joint compound from adjacent surfaces.

- B. Prefill open joints, and damaged surface areas.
- C. Apply joint tape over gypsum board joints, except for trim products specifically indicated as not intended to receive tape.
- D. Gypsum Board Finish Levels: Finish panels to levels indicated below and according to ASTM C840:
 - 1. Level 4: At panel surfaces that will be exposed to view unless otherwise indicated
 - a. Primer and its application to surfaces are specified in Section 099123 "Interior Painting."

3.6 INSTALLATION OF TEXTURE FINISHES

- A. Surface Preparation and Primer: Prepare and apply primer to gypsum panels and other surfaces receiving texture finishes. Apply primer to surfaces that are clean, dry, and smooth.
- B. Texture Finish Application: Mix and apply finish using powered spray equipment, to produce a uniform texture and free of starved spots or other evidence of thin application or of application patterns.
- C. Prevent texture finishes from coming into contact with surfaces not indicated to receive texture finish by covering them with masking agents, polyethylene film, or other means. If, despite these precautions, texture finishes contact these surfaces, immediately remove droppings and overspray to prevent damage according to texture-finish manufacturer's written instructions.

3.7 PROTECTION

- A. Protect adjacent surfaces from drywall compound and promptly remove from floors and other non-drywall surfaces. Repair surfaces stained, marred, or otherwise damaged during drywall application.
- B. Protect installed products from damage from weather, condensation, direct sunlight, construction, and other causes during remainder of the construction period.
- C. Remove and replace panels that are wet, moisture damaged, and mold damaged.
 - 1. Indications that panels are wet or moisture damaged include, but are not limited to, discoloration, sagging, or irregular shape.
 - 2. Indications that panels are mold damaged include, but are not limited to, fuzzy or splotchy surface contamination and discoloration.

END OF SECTION 092900

SECTION 099113 - EXTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on exterior substrates.
 - 1. Fiber-cement board
 - 2. Wood.

1.3 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.
- B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.
- D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.
- E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.
- F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.
 - 1. Include printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 - 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.

topcoat.

1. Submit Samples on rigid backing, 8 inches square.
2. Apply coats on Samples in steps to show each coat required for system.
3. Label each coat of each Sample.
4. Label each Sample for location and application area.

- D. Product List: Cross-reference to paint system and locations of application areas. Use same designations indicated on Drawings and in schedules. Include color designations.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.

1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 QUALITY ASSURANCE

- A. Mockups: Apply mockups of each paint system indicated and each color and finish selected to verify preliminary selections made under Sample submittals and to demonstrate aesthetic effects and set quality standards for materials and execution.

1. Architect will select one surface to represent surfaces and conditions for application of each paint system.
 - a. Vertical and Horizontal Surfaces: Provide samples of at least 25 sq. ft.
 - b. Other Items: Architect will designate items or areas required.
2. Final approval of color selections will be based on mockups.
 - a. If preliminary color selections are not approved, apply additional mockups of additional colors selected by Architect at no added cost to Owner.
3. Approval of mockups does not constitute approval of deviations from the Contract Documents contained in mockups unless Architect specifically approves such deviations in writing.
4. Subject to compliance with requirements, approved mockups may become part of the completed Work if undisturbed at time of Substantial Completion.

1.7 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.

2. Remove rags and waste from storage areas daily.

1.8 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F.
- B. Do not apply paints in snow, rain, fog, or mist; when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."
- B. Material Compatibility:
 1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
 2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.
- C. Colors: As selected by Architect from manufacturer's full range

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Fiber-Cement Board: 12 percent.
 2. Wood: 15 percent.
 3. Gypsum Board: 12 percent.
- C. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.

corrected.

1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection.
- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Wood Substrates:
 1. Scrape and clean knots. Before applying primer, apply coat of knot sealer recommended in writing by topcoat manufacturer for exterior use in paint system indicated.
 2. Sand surfaces that will be exposed to view, and dust off.
 3. Prime edges, ends, faces, undersides, and backsides of wood.
 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual."
 1. Use applicators and techniques suited for paint and substrate indicated.
 2. Paint surfaces behind movable items same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed items with prime coat only.
 3. Paint both sides and edges of exterior doors and entire exposed surface of exterior door frames.
 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.

primed or factory finished if acceptable to topcoat manufacturers.

- B. Tint undercoats same color as topcoat, but tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.
- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 099113

SECTION 099123 - INTERIOR PAINTING

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section includes surface preparation and the application of paint systems on the following interior substrates:]
 - 1. Concrete.
 - 2. Cement board.
 - 3. Wood.
 - 4. Gypsum board.
 - 5. Spray-textured ceilings.

1.3 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D523.
- B. MPI Gloss Level 2: Not more than 10 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- C. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D523.
- D. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D523.
- E. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D523.
- F. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D523.
- G. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D523.

1.4 ACTION SUBMITTALS

- A. Product Data: For each type of product. Include preparation requirements and application instructions.

1. Include Printout of current "MPI Approved Products List" for each product category specified, with the proposed product highlighted.
 2. Indicate VOC content.
- B. Samples for Initial Selection: For each type of topcoat product.
- C. Samples for Verification: For each type of paint system and in each color and gloss of topcoat.
1. Submit Samples on rigid backing, 8 inches square.
 2. Apply coats on Samples in steps to show each coat required for system.
 3. Label each coat of each Sample.
 4. Label each Sample for location and application area.
- D. Product List: Cross-reference to paint system and locations of application areas.

1.5 MAINTENANCE MATERIAL SUBMITTALS

- A. Furnish extra materials, from the same product run, that match products installed and that are packaged with protective covering for storage and identified with labels describing contents.
1. Paint: 5 percent, but not less than 1 gal. of each material and color applied.

1.6 DELIVERY, STORAGE, AND HANDLING

- A. Store materials not in use in tightly covered containers in well-ventilated areas with ambient temperatures continuously maintained at not less than 45 deg F.
1. Maintain containers in clean condition, free of foreign materials and residue.
 2. Remove rags and waste from storage areas daily.

1.7 FIELD CONDITIONS

- A. Apply paints only when temperature of surfaces to be painted and ambient air temperatures are between 50 and 95 deg F .
- B. Do not apply paints when relative humidity exceeds 85 percent; at temperatures less than 5 deg F above the dew point; or to damp or wet surfaces.

PART 2 - PRODUCTS

2.1 PAINT, GENERAL

- A. MPI Standards: Products shall comply with MPI standards indicated and shall be listed in its "MPI Approved Products Lists."

B. Material Compatibility:

1. Materials for use within each paint system shall be compatible with one another and substrates indicated, under conditions of service and application as demonstrated by manufacturer, based on testing and field experience.
2. For each coat in a paint system, products shall be recommended in writing by topcoat manufacturers for use in paint system and on substrate indicated.

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

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates and conditions, with Applicator present, for compliance with requirements for maximum moisture content and other conditions affecting performance of the Work.
- B. Maximum Moisture Content of Substrates: When measured with an electronic moisture meter as follows:
 1. Wood: 15 percent.
 2. Gypsum Board: 12 percent.
- C. Gypsum Board Substrates: Verify that finishing compound is sanded smooth.
- D. Verify suitability of substrates, including surface conditions and compatibility, with existing finishes and primers.
- E. Proceed with coating application only after unsatisfactory conditions have been corrected.
 1. Application of coating indicates acceptance of surfaces and conditions.

3.2 PREPARATION

- A. Comply with manufacturer's written instructions and recommendations in "MPI Architectural Painting Specification Manual" applicable to substrates and paint systems indicated.
- B. Remove hardware, covers, plates, and similar items already in place that are removable and are not to be painted. If removal is impractical or impossible because of size or weight of item, provide surface-applied protection before surface preparation and painting.
 1. After completing painting operations, use workers skilled in the trades involved to reinstall items that were removed. Remove surface-applied protection if any.

- C. Clean substrates of substances that could impair bond of paints, including dust, dirt, oil, grease, and incompatible paints and encapsulants.
 - 1. Remove incompatible primers and reprime substrate with compatible primers or apply tie coat as required to produce paint systems indicated.
- D. Wood Substrates:
 - 1. Scrape and clean knots, and apply coat of knot sealer before applying primer.
 - 2. Sand surfaces that will be exposed to view, and dust off.
 - 3. Prime edges, ends, faces, undersides, and backsides of wood.
 - 4. After priming, fill holes and imperfections in the finish surfaces with putty or plastic wood filler. Sand smooth when dried.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and to recommendations in "MPI Manual."
 - 1. Use applicators and techniques suited for paint and substrate indicated.
 - 2. Paint surfaces behind movable equipment and furniture same as similar exposed surfaces. Before final installation, paint surfaces behind permanently fixed equipment or furniture with prime coat only.
 - 3. Paint front and backsides of access panels, removable or hinged covers, and similar hinged items to match exposed surfaces.
 - 4. Do not paint over labels of independent testing agencies or equipment name, identification, performance rating, or nomenclature plates.
 - 5. Primers specified in painting schedules may be omitted on items that are factory primed or factory finished if acceptable to topcoat manufacturers.
- B. Tint each undercoat a lighter shade to facilitate identification of each coat if multiple coats of same material are to be applied. Tint undercoats to match color of topcoat, but provide sufficient difference in shade of undercoats to distinguish each separate coat.
- C. If undercoats or other conditions show through topcoat, apply additional coats until cured film has a uniform paint finish, color, and appearance.
- D. Apply paints to produce surface films without cloudiness, spotting, holidays, laps, brush marks, roller tracking, runs, sags, ropiness, or other surface imperfections. Cut in sharp lines and color breaks.

3.4 CLEANING AND PROTECTION

- A. At end of each workday, remove rubbish, empty cans, rags, and other discarded materials from Project site.
- B. After completing paint application, clean spattered surfaces. Remove spattered paints by washing, scraping, or other methods. Do not scratch or damage adjacent finished surfaces.

- C. Protect work of other trades against damage from paint application. Correct damage to work of other trades by cleaning, repairing, replacing, and refinishing, as approved by Architect, and leave in an undamaged condition.
- D. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

END OF SECTION 099123

SECTION 313116 - TERMITE CONTROL

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

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

1.2 SUMMARY

- A. Section Includes:

- 1. Soil treatment.
- 2. Wood treatment.

- B. Related Requirements:

- 1. Section 061000 "Rough Carpentry" for wood preservative treatment by pressure process.
- 2. Section 076200 "Sheet Metal Flashing and Trim" for custom-fabricated, metal termite shields.

1.3 ACTION SUBMITTALS

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

- 1. Include construction details, material descriptions, dimensions of individual components, and profiles for termite control products.
- 2. Include the EPA-Registered Label for termiticide products.

1.4 INFORMATIONAL SUBMITTALS

- A. Qualification Data: For qualified Installer.

- B. Product Certificates: For each type of termite control product.

- C. Soil Treatment Application Report: After application of termiticide is completed, submit report for Owner's records and include the following:

- 1. Date and time of application.
- 2. Moisture content of soil before application.
- 3. Termiticide brand name and manufacturer.
- 4. Quantity of undiluted termiticide used.
- 5. Dilutions, methods, volumes used, and rates of application.

7. Water source for application.

D. Wood Treatment Application Report: After application of termiticide is completed, submit report for Owner's records and include the following:

1. Date and time of application.
2. Termiticide brand name and manufacturer.
3. Quantity of undiluted termiticide used.
4. Dilutions, methods, volumes used, and rates of application.
5. Areas of application.

E. Sample Warranties: For special warranties.

1.5 QUALITY ASSURANCE

A. Installer Qualifications: A specialist who is licensed according to regulations of authorities having jurisdiction to apply termite control treatment and products in jurisdiction where Project is located and who employs workers trained and approved by manufacturer to install manufacturer's products.

1.6 FIELD CONDITIONS

A. Soil Treatment:

1. Environmental Limitations: To ensure penetration, do not treat soil that is water saturated or frozen. Do not treat soil while precipitation is occurring. Comply with requirements of the EPA-Registered Label and requirements of authorities having jurisdiction.
2. Related Work: Coordinate soil treatment application with excavating, filling, grading, and concreting operations. Treat soil under footings, grade beams, and ground-supported slabs before construction.

1.7 WARRANTY

A. Soil Treatment Special Warranty: Manufacturer's standard form, signed by Applicator and Contractor, certifying that termite control work consisting of applied soil termiticide treatment will prevent infestation of subterranean termites, including Formosan termites (*Coptotermes formosanus*). If subterranean termite activity or damage is discovered during warranty period, re-treat soil and repair or replace damage caused by termite infestation.

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

B. Wood Treatment Special Warranty: Manufacturer's standard form, signed by Applicator and Contractor, certifying that termite control work consisting of applied wood termiticide treatment will prevent infestation of subterranean termites, including Formosan termites (*Coptotermes formosanus*). If subterranean termite damage is

discovered during warranty period, repair or replace damage caused by termite infestation and treat replacement wood.

1. Warranty Period: 12 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Source Limitations: Obtain termite control products from single source from single manufacturer.

2.2 SOIL TREATMENT

- A. Termiticide: EPA-Registered termiticide acceptable to authorities having jurisdiction, in an aqueous solution formulated to prevent termite infestation.

1. Service Life of Treatment: Soil treatment termiticide that is effective for not less than five years against infestation of subterranean termites.

2.3 WOOD TREATMENT

- A. Borate: EPA-Registered borate termiticide acceptable to authorities having jurisdiction, in an aqueous solution for spray application and a gel solution for pressure injection, formulated to prevent termite infestation in wood.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Examine substrates, areas, and conditions, with Applicator present, for compliance with requirements for moisture content of soil per termiticide label, interfaces with earthwork, slab and foundation work, landscaping, utility installation, and other conditions affecting performance of termite control.
- B. Proceed with application only after unsatisfactory conditions have been corrected.

3.2 PREPARATION

- A. General: Prepare work areas according to the requirements of authorities having jurisdiction and according to manufacturer's written instructions before beginning application and installation of termite control treatment(s). Remove extraneous sources of wood cellulose and other edible materials, such as wood debris, tree stumps and

roots, stakes, formwork, and construction waste wood from soil within and around foundations.

- B. Soil Treatment Preparation: Remove foreign matter and impermeable soil materials that could decrease treatment effectiveness on areas to be treated. Loosen, rake, and level soil to be treated, except previously compacted areas under slabs and footings. Termiticides may be applied before placing compacted fill under slabs if recommended in writing by termiticide manufacturer.
 - 1. Fit filling hose connected to water source at the site with a backflow preventer, according to requirements of authorities having jurisdiction.

3.3 APPLYING SOIL TREATMENT

- A. Application: Mix soil treatment termiticide solution to a uniform consistency. Distribute treatment uniformly. Apply treatment at the product's EPA-Registered Label volume and rate for maximum specified concentration of termiticide to the following so that a continuous horizontal and vertical termiticidal barrier or treated zone is established around and under building construction.
 - 1. Foundations: Soil adjacent to and along the entire inside perimeter of foundation walls; along both sides of interior partition walls; around plumbing pipes and electric conduit penetrating the slab; around interior column footers, piers, and chimney bases; and along the entire outside perimeter, from grade to bottom of footing.,
 - 2. Crawlspace: Soil under and adjacent to foundations. Treat adjacent areas, including around entrance platform, porches, and equipment bases. Apply overall treatment only where attached concrete platform and porches are on fill or ground.
- B. Post warning signs in areas of application.
- C. Reapply soil treatment solution to areas disturbed by subsequent excavation, grading, landscaping, or other construction activities following application.

3.4 APPLYING WOOD TREATMENT

- A. Wood Treatment: Apply wood treatment after framing, sheathing, and exterior weather protection is completed but before electrical and mechanical systems are installed.
- B. Application: Mix borate wood treatment solution to a uniform consistency. Apply treatment at the product's EPA-Registered Label volume and rate for the maximum borate concentration allowed for each specific use so that wood framing, sheathing, siding, and structural members subject to infestation receive treatment. Apply treatment to the height of 8 feet above grade.
 - 1. Framing and Sheathing: Apply termiticide solution by spray to bare wood and with complete coverage.

2. Exterior Uncoated Wood Trim and Siding: Apply termiticide solution to bare wood only when forecasted weather conditions indicate no precipitation or fog before application of seal coat. After 48 hours, verify that surface is sufficiently dry for seal coat and apply seal coat of paint as specified in Section 099113 "Exterior Painting."

3.5 PROTECTION

- A. Avoid disturbance of treated soil after application. Keep off treated areas until completely dry.
- B. Protect termiticide solution dispersed in treated soils and fills from being diluted by exposure to water spillage or weather until ground-supported slabs are installed. Use waterproof barrier according to EPA-Registered Label instructions.

3.6 MAINTENANCE SERVICE

- A. Maintenance Service: Beginning at Substantial Completion, maintenance service shall include 12 months' full maintenance by skilled employees of termite-control-treatment Installer. Include quarterly maintenance as required for proper performance according to the product's EPA-Registered Label and manufacturer's written instructions. Parts and supplies shall be manufacturer's authorized replacement parts and supplies.
- B. Continuing Maintenance Proposal: Provide from termite-control-treatment Installer to Owner, in the form of a standard yearly (or other period) maintenance agreement, starting on date initial maintenance service is concluded. State services, obligations, conditions, and terms for agreement period and for future renewal options.
 1. Include annual inspection for termite activity and effectiveness of termite treatment according to manufacturer's written instructions.

END OF SECTION 313116

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SECTION 1 - CONTRACT DOCUMENTS**1.1 DEFINITIONS****1.1.1 THE CONTRACT DOCUMENTS**

The Contract Documents consist of the Owner-Contractor Agreement, including Invitation for Bid, Instruction to Bidders, Contractor's Bid (including documentation accompanying the Bid and any documentation submitted prior to the Notice of Award), Performance Bond, Payment Bond, Bid Bond, Insurance Certificates and Endorsements, and copies of policies, Notice of Award, Notice to Proceed, these General Conditions, Special Supplemental Conditions, and any Modifications. A Modification is (1) a written amendment to the Contract signed by both parties, (2) a Change Order, (3) a written interpretation issued by the Project Manager, as designated by the City Manager, pursuant to Subparagraph 2.2.8, or (4) a written order for a minor change in the Work for each project issued by the Project Manager, as designated by the City Manager, pursuant to Paragraph 12.3.

1.1.2 THE CONTRACT

The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations, or agreements, either written or oral. The Contract may be amended or modified only by a Modification as defined in Subparagraph 1.1.1. Nothing contained in the Contract Documents shall create any contractual relationship between the Owner and any Subcontractor or Sub-subcontractor.

1.1.3 THE WORK

The Work comprises the completed construction required by the Contract Documents and includes all labor necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction.

1.1.4 THE PROJECT

The Project is the total construction of which the Work performed under the Contract Documents may be the whole or a part.

1.1.5 ADDENDA

Written or graphic instruments issued prior to the Award of the Contract which modify or interpret the Contract Documents by additions, deletions, corrections, or clarifications.

1.1.6 ACCEPTANCE, FINAL ACCEPTANCE

The formal action by the City accepting the Work as being complete, after certification by the Project Manager, as designated by the City Manager, of final completion.

1.1.7 AGREEMENT

The written agreement between the City and the Contractor covering the Work to be performed also designated as the Contract.

1.1.8 APPARENT LOWEST AND BEST BIDDER

The Bidder submitting the lowest and best Bid at the Bid Opening without correction of numerical discrepancies or determination of responsiveness and responsibility.

1.1.9 APPLICATION FOR PAYMENT

The form furnished in the Contract Documents which is to be used by the Contractor in requesting progress payments and an affidavit of the Contractor that progress payments theretofore received from City on account of the Work have been applied by the Contractor to discharge in full all of the Contractor's obligations stated in prior Applications of Payment. The application includes such supporting documentation as required by the Contract Documents.

1.1.10 BID

The offer or proposal of the Bidder submitted in the prescribed manner on the prescribed forms to perform the contemplated Work in accordance with the Contract Documents.

1.1.11 BIDDER

Any individual, partnership, corporation, joint venture, or other legal entity or combination thereof submitting a Bid for the Work, acting directly or through an authorized representative.

1.1.12 BONDS

Instruments of security furnished by the Contractor and his surety in accordance with the Contract Documents including Bid, Performance, and Payment Bonds.

1.1.13 CHANGE ORDER

A written order to the Contractor, approved by the City, complying with the change order procedure established in the Contract Documents, authorizing an addition, deletion, or revision in the Work, or an adjustment in the Contract Price or Contract Time, or both.

1.1.14 FPRA AND CITY

The Fort Pierce Redevelopment Agency (FPRA) and City of Fort Pierce: The Owner.

1.1.15 CONTRACT AMOUNT

The total monies payable to the Contractor under the terms and conditions of the Contract Documents.

1.1.16 DAY

A calendar day of 24 hours lasting from midnight one day to midnight the next day.

1.1.17 DEFECTIVE

An adjective which, when modifying the word Work, refers to Work that is unsatisfactory, faulty, or deficient, or does not conform to the Contract Documents, or does not meet the requirements of any inspection, test, or approval referred to in the Contract Documents, or has been damaged prior to Final Payment.

1.1.18 DRAWINGS, PLANS

The drawings, plans, or reproductions thereof, which show location, character, dimensions, and details of the Work to be done, which are included in the Contract Documents.

1.1.19 EFFECTIVE DATE OF AGREEMENT

The date indicated in the Agreement on which it becomes effective, but if no such date is indicated, it means the date on which the Agreement is signed by the last of the two parties to sign.

1.1.20 FIELD ORDER

A written order issued by the Project Manager, as designated by the City Manager, to the Contractor during construction effecting a minor change in the Work not involving an adjustment in the Contract Price or an extension of the Contract Time.

1.1.21 LOWEST AND BEST BIDDER

The lowest responsive, responsible Bidder.

1.1.22 MODIFICATION

A written amendment of the Contract Documents signed by both parties, and work directives including but not limited to Change Orders and Field Orders. A modification may only be issued after the effective date of the Agreement.

1.1.23 NOTICE OF AWARD

The written notice of the acceptance of the Bid from the City to the Lowest and Best Bidder.

1.1.24 NOTICE TO PROCEED

Written communication issued by the City to the Contractor authorizing him to proceed with the Work and establishing the date of commencement of the Work.

1.1.25 OWNER

The Fort Pierce Redevelopment Agency and the City of Fort Pierce: The Owner.

1.1.26 PAYMENT BOND

The security furnished by the Contractor and its Surety in the form contained in the Contract Documents as a guarantee that the Contractor will pay in full all bills.

1.1.27 PERFORMANCE BOND

The Security furnished by the Contractor and its surety as a guarantee that the Contractor will perform all of its contractual obligations in accordance with the terms of the Contract Documents; the covered amount of the Performance Bond is separate and distinct from the covered amount of the Payment Bond.

1.1.28 REQUEST FOR INFORMATION

Contractor's inquiries for information shall be submitted to the Project Manager, as designated by the City Manager.

1.1.29 PUBLIC WORKS INSPECTOR

The authorized representative designated by the Project Manager, as designated by the City Manager, assigned for site inspections or any part thereof.

1.1.30 SAMPLE

Samples are physical examples or work including, but not limited to, the following items: Partial sections of manufactured or fabricated work; Small cuts or containers of materials; Complete units of repetitively-used materials; Swatches showing color, texture, and pattern; Color range sets; or Units of work to be used for independent inspection and testing.

1.1.31 SHOP DRAWINGS

All drawings, diagrams, illustrations, brochures, schedules, and other data which are prepared by the Contractor or for the Contractor to demonstrate how the Contractor specifically intends to comply with the Contract Documents.

1.1.32 SPECIFICATIONS

Those portions of the Contract Documents consisting of written or graphic technical descriptions of materials, equipment, construction systems, standards and workmanship as applied to the Work and certain administrative details applicable there.

1.1.33 SPECIAL SUPPLEMENTAL CONDITIONS

Modifications, additions, or deletions to the General Conditions.

1.1.34 WORD DEFINITIONS

1. Unless otherwise expressly stated, wherever in the Contract Documents the word 'approved,' 'reviewed,' 'acceptable,' 'satisfactory,' 'directed,' 'required,' 'permitted,' 'ordered,' 'designated,' 'prescribed,' or words of like import are used, it shall be understood that the action required, reference, or determination rests solely with the Project Manager, as designated by the City Manager, or his duly authorized representative.

2. Unless otherwise expressly stated, wherever in the Contract Documents the words 'as shown' or 'as indicated' or words of like import are used, they shall mean as shown or as indicated on the drawings.

3. Unless otherwise expressly stated, wherever in the Contract Documents the word 'provide' is used, it shall mean furnished and installed in place, complete and tested.

4. Wherever the word 'Product' is used in these Contract Documents, it shall refer to materials, systems, and equipment provided by Contractor.

5. The term 'Project Manual' as used in these Contract Documents includes Bidding Requirements, Conditions of the Contract, and Specifications.

1.2 EXECUTION, CORRELATION, AND INTENT

1.2.1 The Contract Documents shall be signed in not less than duplicate by the City and the Contractor.

1.2.2 By executing the Contract, the Contractor represents that he has visited the site, familiarized himself with the local conditions under which the Work is to be performed, and correlated his observations with the requirements of the Contract Documents.

1.2.3 The intent of the Contract Documents is to include all items necessary for the proper execution and completion of the Work. The Contract Documents are complementary, and what is required by any one shall be as binding as if required by all. Work not covered in the Contract Documents will not be required unless it is consistent therewith and is reasonable inferable there from as being necessary to produce the intended results.

Words and abbreviations which have well- known technical or trade meanings are used in the Contract Documents in accordance with such recognized meanings.

1.2.4 The organization of the Specifications into divisions, sections, and articles and the arrangement of drawings shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of Work to be performed by any trade.

1.3 OWNERSHIP AND USE OF DOCUMENTS

1.3.1 All Drawings, Specifications, and copies thereof furnished by the City are and shall remain the property of the City, to be used only with respect to this Project and not to be used on any other project. With the exception of one contract set for each party to the Contract, such documents are to be returned or suitably accounted for to the City on request at the completion of the Work. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the City Engineer's common law copyright or other reserved rights.

SECTION 2 - THE PROJECT MANAGER, AS DESIGNATED BY THE CITY MANAGER

2.1 The Project Manager, as designated by the City Manager is authorized to oversee implementation of the Contract Documents.

2.2 The Project Manager, as designated by the City Manager, will visit the site at intervals to check the quality or quantity of the Work. The Project Manager, as designated by the City Manager, will not be responsible for and will not have control or charge of construction means, methods, techniques, sequences or procedures, or for safety precautions and programs in connection with the Work, and he will not be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents. The Project Manager, as designated by the City Manager, will not be responsible for or have control or charge over the acts or omissions of the Contractor, Subcontractors, or any of their agents or employees, or any other persons performing any of the Work. The Project Manager, as designated by the City Manager, shall at all times have access to the Work wherever it is in preparation and progress. The Contractor shall provide facilities for such access so the Project Manager, as designated by the City Manager, may perform his functions under the Contract Documents.

2.3 The Project Manager, as designated by the City Manager, will render interpretations necessary for the proper execution of progress of the Work, with reasonable promptness and in accordance with any time limit agreed upon. Either party to the Contract may make written request to the Project Manager, as designated by the City Manager, for such interpretations.

SECTION 3 –CITY

3.1 DEFINITION

3.1.1 The City of Fort Piece (City) is the person or entity identified as such in the Owner-Contractor Agreement and is referred to through the Contract Documents as if singular in number and masculine in gender. The term Owner means the City or its authorized representative.

3.1.2 The City is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Owner means the City or its authorized representative.

3.2 INFORMATION AND SERVICES REQUIRED OF THE OWNER

3.2.1 The City shall furnish legal limitations for the site of the Project.

3.2.2 Except as provided in Subparagraph 4.7.1, the City shall secure and pay for necessary approvals, easements, assessments, and charges required for the construction, use, or occupancy of permanent structures or for permanent changes in existing facilities.

3.2.3 Information or services under the City's control shall be furnished by the City with reasonable promptness to avoid delay in the orderly progress of the Work.

3.2.4 Six sets of contract drawings will be furnished to the Contractor free of charge for execution of the Work. Additional sets of documents required by the Contractor will be made available upon payment by Contractor of costs of reproduction.

3.2.5 The foregoing are in addition to other duties and responsibilities of the City enumerated herein and especially those in respect to Work by City or by Separate Contractors, Payments and Completion, and Insurance in Sections 6, 9, and 11, respectively.

3.3. CITY'S RIGHT TO STOP THE WORK

3.3.1 Termination of work shall be in compliance with the Agreement, to include Articles 8, 10, 14, 15, 16, and 17, and the Contract Documents.

3.4. CITY'S RIGHT TO CARRY OUT THE WORK

3.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Agreement or Contract Documents, then the City shall have the right to carry out the Work in accordance with Agreement and Sections 8, 14, 15, and 16, as noted in the Contract Documents.

SECTION 4 - CONTRACTOR

4.1. DEFINITION

4.1.1 The Contractor is the person or entity identified as such in the Owner-Contractor Agreement and is referred to throughout the Contract Documents as if singular in number and masculine in gender. The term Contractor means the Contractor or his authorized representative.

4.2. REVIEW OF CONTRACT DOCUMENTS

4.2.1 The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Project Manager, as designated by the City Manager, any error, inconsistency or omission he may discover. The Contractor shall not be liable to the City or the Project Manager, as designated by the City Manager, for any damage resulting from such errors, inconsistencies, or omissions in the Contract Documents. The Contractor shall perform no portion of the Work at any time without Contract Documents or, where required, approved Shop Drawings, Product Data, or Samples for such portion of the Work.

4.3. SUPERVISION AND CONSTRUCTION PROCEDURES

4.3.1 The Contractor shall supervise and direct the Work, using his best skill and attention. He shall be solely responsible for all construction means, methods, techniques, sequences, and procedures and for coordinating all portions of the Work under the Contract.

4.3.2 The Contractor shall be responsible to the Owner for the acts and omissions of his employees, Subcontractors, and their agents and employees, and other persons performing any of the Work under a contract with the Contractor.

4.3.3 The Contractor shall not be relieved from his obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Engineer in his administration of the Contract, or by inspections, tests, or approvals required or performed under Paragraph 7.7 by persons other than the Contractor.

4.4 LABOR AND MATERIALS

4.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in Work.

4.4.2 The Contractor shall at all times enforce strict discipline and good order among his employees and shall not employ anyone unskilled in the task assigned to him.

4.5 WARRANTY

4.5.1 The Contractor warrants to the City and the Project Manager, as designated by the City Manager, that all materials and equipment furnished under this Contract will be new unless otherwise specified, and that all Work will be of good quality, free from faults and defects, and in conformance with the Contract Documents. All Work not conforming to these requirements may be considered defective. If required by the Project Manager, as designated by the City Manager, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of Paragraph 13.2.

4.6 TAXES

4.6.1 Not applicable.

4.7 PERMITS, FEES, AND NOTICES

4.7.1 Unless otherwise provided in the Contract Documents, the Contractor shall secure all City construction permits and secure all other permits and governmental fees and licenses necessary for the proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required prior to construction.

4.7.2 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations, and lawful orders of any public authority bearing on the performance of the Work.

4.7.3 When the Contractor observes that any of the Contract Documents are at variance therewith in any respect, he shall promptly notify the Project Manager, as designated by the City Manager, in writing, and any necessary changes shall be accomplished by appropriate Modification.

4.7.4 If the Contractor performs any Work knowing it to be contrary to such laws, ordinances, rules, and regulations, and without such notice to the Project Manager, as designated by the City Manager, he shall assume full responsibility therefore and shall bear all costs attributable thereto.

4.8 ALLOWANCES

4.8.1 Not applicable.

4.9 SUPERINTENDENT

4.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the project site during the progress of the Work. The superintendent shall represent the Contractor, and all communications given to the superintendent shall be binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed on written request in each case.

4.9.2 The Contractor shall provide the Project Manager, as designated by the City Manager, with the name of his Superintendent and the location at which the Superintendent may be reached at all times.

4.10 PROGRESS SCHEDULE

4.10.1 The Contractor, within ten days after Notice of Award, shall prepare and submit an estimated progress schedule for the Work. The progress schedule shall be related to the entire Project to the extent required by the Contract Documents, and shall provide for expeditious and practicable execution of the Work.

4.11 DOCUMENTS AND SAMPLES AT THE SITE

4.11.1 Contractor shall maintain on site one record copy of: Drawings, Specifications, Addenda, Change Orders and other modifications to the Contract, Reviewed Shop Drawings, Product Data, and Samples, Field Test Records, Inspection Certificates, and Manufacturer's Certificates.

4.11.2 At the Contract closeout, deliver record documents and samples to the Project Manager, as designated by the City Manager, by transmittal letter with Contractor's signature.

4.12 SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

4.12.1 After checking and verifying all field measurements and after complying with applicable procedures specified in the General Requirements, Contractor shall submit to Project Manager, as designated by the City Manager, for review and approval, in accordance with the accepted schedule of Shop Drawing submissions and specific requirements of the Specifications, or for other appropriate action if so indicated in the Supplementary Conditions, six copies of all Shop Drawings which will bear a stamp or specific written indication that Contractor has satisfied Contractor's responsibilities under the Contract Documents with respect to the review of the submission. All submissions will be identified as Project Manager, as designated by the City Manager, may require. The data shown on the Shop Drawings will be complete with respect to quantities, dimensions, specified performance and design criteria, materials and similar data, to enable Project Manager, as designated by the City Manager, to review the information as required.

4.12.2 Contractor shall also submit to Project Manager, as designated by the City Manager, for review and approval with such promptness as to cause no delay in Work, all samples required by the Contract Documents. All samples will have been checked by and accompanied by a specific written indication that Contractor has satisfied Contractor's responsibilities under the Contract Documents with respect to the review of the submission and will be identified clearly as to material, supplier, and pertinent data such as catalog numbers and the use for which intended.

4.12.3 Before submission of each shop drawing or sample, Contractor shall have determined and verified all quantities, dimensions, specific performance criteria, installation requirements, materials, catalog numbers and similar data with respect thereto and reviewed or coordinated each shop drawing or sample with other shop drawings and samples and with the requirements of the Work and the Contract Documents.

4.12.4 At the time of each submission, Contractor shall give Project Manager, as designated by the City Manager, specific written notice of each variation that shop drawings or samples may have from requirements of Contract Documents, and, in addition, shall cause a specific notation to be made on each shop drawing

submitted to Project Manager, as designated by the City Manager, for review and approval of each such variation.

4.12.5 Project Manager, as designated by the City Manager, will review and take action within 14 calendar days of receipt of shop drawings and samples, but Project Manager's, (as designated by the City Manager) review and approval will be only for conformance with the design concept of the Project and for compliance with the information given in Contract Documents and shall not extend to means, methods, techniques, sequences or procedures of construction (except where a specific means, method, technique, sequence or procedure of construction is indicated, in or required by the Contract Documents) or to safety precautions or programs incident thereto. The review and approval of a separate item as such will not indicate approval of the assembly in which the item functions. Contractor shall make corrections required by the Project Manager, as designated by the City Manager, and shall return the required number of corrected copies of shop drawings and submit as required new samples for review and approval. Contractor shall direct specific attention in writing to revisions other than the corrections called for by Project Manager, as designated by the City Manager, on previous submittals.

4.12.6 Project Manager's, as designated by the City Manager, review and approval of shop drawings or samples shall not relieve Contractor from responsibility for any variation from the requirements of the Contract Documents unless Contractor has in writing called Project Manager's, as designated by the City Manager, attention to each such variation at the time of submission as required by Subparagraph 4.12.4 and Project Manager, as designated by the City Manager, has given written approval of each such variation by a specific written notation thereof incorporated in or a specific written notation thereof incorporated in or accompanying the shop drawing or sample approval; nor will any approval by Project Manager, as designated by the City Manager, relieve Contractor from responsibility for errors or omissions in the shop drawings or from responsibility for having complied with the provisions of Subparagraph 4.12.3.

4.12.7 Where a shop drawing or sample is required, any related Work performed prior to Project Manager's, as designated by the City Manager, review and approval of the pertinent submission will be the sole expense and responsibility of Contractor.

4.13 USE OF SITE

4.13.1 The Contractor shall confine operations of the site to areas permitted by law, ordinances, permits, Agreement, and the Contract Documents and shall not unreasonably encumber the site with any materials or equipment.

4.14 CUTTING AND PATCHING OF WORK

4.14.1 The Contractor shall be responsible for all cutting, fitting, or patching that may be required to complete the Work or to make its several parts fit together properly.

4.14.2 The Contractor shall not damage or endanger any portion of the Work or the work of the City or any separate contractors by cutting, patching, or otherwise altering any work, or by excavation. The Contractor shall not cut or otherwise alter the work of the City or any separate contractor except with the written consent of the City and of such separate contractor. The Contractor shall not unreasonably withhold from City or any separate contractor his consent to cutting or otherwise altering the Work.

4.15 CLEANING UP

4.15.1 The Contractor at all times shall keep the work site project free from accumulation of waste materials or rubbish caused by his operations. At the completion of the Work he shall remove all his waste materials and rubbish from and about the Project as well as all his tools, construction equipment, machinery, and surplus materials.

4.15.2 If the Contractor fails to clean up at the completion of the Work, the City may do so, and the cost thereof shall be charged to the Contractor.

4.16 COMMUNICATIONS

4.16.1 The Contractor shall forward all communications to the City through the Project Manager, as designated by the City Manager.

4.17 ROYALTIES AND PATENTS

4.17.1 The Contractor shall pay all royalties and license fees. He shall defend all suits or claims for infringement of any patent rights and shall save City harmless from loss on account thereof except that City shall be responsible for all such loss when a particular design process or the product of a particular manufacturer or manufacturers is specified, but if the Contractor has reason to believe that the design, process or product specified is an infringement of a patent, he shall be responsible for such loss unless he promptly gives such information to Project Manager, as designated by the City Manager.

4.18 INDEMNIFICATION

4.18.1 The Contractor shall agree to indemnify and hold the City harmless against any and all expenses and liabilities as per the Agreement, to include Articles 10 and 22, and all Contract Documents.

SECTION 5 - SUBCONTRACTORS

5.1 DEFINITION

5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform any of the Work at the site. The term Subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Subcontractor or his authorized representative. The term Subcontractor does not include any separate contractor or his subcontractors.

5.1.2 A Subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform any of the Work at the site. The term Sub-subcontractor is referred to throughout the Contract Documents as if singular in number and masculine in gender and means a Sub-subcontractor or an authorized representative thereof.

5.2 AWARD OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK.

5.2.1 Shall be in compliance with the Agreement, to include Article 12, and all Contract Documents.

SECTION 6 - WORK BY CITY

6.1 CITY'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS

6.1.1 The City reserves the right to perform work related to the Project with his own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract. If the Contractor claims that delay or additional cost is involved because of such action by the City, he shall make such claim as provided elsewhere in the Contract Documents.

6.1.2 When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the Contract Documents in each case shall mean the Contractor who executes each separate Owner-Contractor Agreement.

6.2 MUTUAL RESPONSIBILITY

6.2.1 The Contractor shall afford the City and separate contractors' reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work and shall connect and coordinate his Work with theirs as required by the Contract Documents.

6.2.2 If any part of the Contractor's Work depends for proper execution or results upon the work of the City or any separate contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Project Manager, as designated by the City Manager, any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor to report shall constitute an acceptance of the City's or separate contractors' work as fit and proper to receive his Work, except as to defects which may subsequently become apparent in such work by others.

6.2.3 Any costs caused by defective or ill-timed work shall be borne by the party responsible therefore. No time extensions will be granted due to ill-timed work or any other reasons.

6.2.4 Should the Contractor wrongfully cause damage to the work or property of the City, or to other work on the site, the Contractor shall promptly remedy such damage as provided in Subparagraph 10.2.5.

6.2.5 Should the Contractor wrongfully cause damage to the work or property of any separate contractor, the Contractor shall upon due notice promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues or initiates an arbitration proceeding against the City on account of any damage alleged to have been caused by the Contractor, the City shall notify the Contractor who shall defend such proceedings at the City's expense, and if any judgment or award against the City arises therefrom, the Contractor shall pay or satisfy it and shall reimburse the City for all attorneys' fees and court or arbitration costs which the City has incurred. Regardless of the outcome, the Contractor will pay all expenses.

6.3 CITY'S RIGHT TO CLEAN UP

6.3.1 If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up as required by Section 4.15, the City may clean up and charge the cost thereof to the Contractors as the Project Manager, as designated by the City Manager, shall determine to be just.

SECTION 7 –MISCELLANEOUS PROVISIONS

7.1 GOVERNING LAW

7.1.1 The Contract shall be governed by the law of the place where the Project is located.

7.2 SUCCESSORS

7.2.1 The City and the Contractor each binds himself, his partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and legal representatives of such other party in respect to all covenants, agreements and obligations contained in the Contract Documents. Neither party to the

Contract shall assign the Contract or sublet it as a whole without the written consent of the other, nor shall the Contractor assign any monies due or to become due to him hereunder, without the previous written consent of the City.

7.3 WRITTEN NOTICE

7.3.1 Written notice shall be deemed to have been duly served if delivered in person to the individual or member of the firm or entity or to an officer of the corporation for whom it was intended, or if last delivered at or sent by registered or certified mail to the last business address known to him who gives the notice.

7.4 CLAIMS FOR DAMAGE

7.4.1 All claims by the Contractor shall be in accordance with Article 11 of the Contract Agreement.

7.5 CONSIDERATION OF BIDS – SCOPE ALTERNATES

For the purpose of award, after opening and reading the proposals, the CITY will consider as the bid the correct summation of each unit bid price multiplied by estimated quantities shown in the proposal. On this basis, the CITY will compare the amounts of each bid and make the results of such comparison available to the public. Until the actual award of the Contract, however, the CITY reserves the right to reject any or all proposals and to waive technical errors that the CITY may deem best for the interest of the City. Submit bid unit prices for all bid items. Bids submitted without bid unit prices for all bid items will be rejected as irregular.

7.6 PERFORMANCE AND PAYMENT BOND

7.6.1 Contractor shall furnish a Performance Bond and a Payment Bond on the forms provided as part of the Contract Documents each in an amount as required by the Contract Documents as security for the faithful performance and payment of all Contractor's obligations under the Contract Documents. Contractor shall also furnish such other Bonds as are required by the Special Supplementary Conditions. All Bonds shall be in the forms prescribed by the bidding documents or Special Supplementary Conditions and be executed by such Sureties as are licensed to conduct business in the state where the Project is located, and, except as otherwise provided by law, are named in the current list of "Companies Holding Certificates of City as Acceptable Sureties on Federal Bonds and as Acceptable Reinsuring Companies" as published in Circular 570 (amended) by the Audit Staff Bureau of Accounts, U. S. Treasury Department. All Bonds signed by an agent must be accompanied by a certified copy of the authority to act.

7.6.2 If the Surety on any Bond furnished by Contractor is declared a bankrupt or becomes insolvent or its right to do business is terminated in any state where any part of the Project is located or it ceases to meet the requirements of Paragraph 7.6.1, Contractor shall within five (5) days thereafter substitute another Bond and Surety, both of which shall be acceptable to City.

7.7 RIGHTS AND REMEDIES

7.7.1 The duties and obligations imposed by the Contract Documents and the rights and remedies available hereunder shall be in addition to and not a limitation of any duties, obligations, rights and remedies otherwise imposed or available by law.

7.7.2 No action or failure to act by the City, , Project Manager, as designated by the City Manager, or Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach hereunder, except as may be specifically agreed in writing.

7.8 TESTS

7.8.1 When the Contract Documents, laws, ordinances, rules, regulations or orders of any public agency having jurisdiction require any portion of the Work to be inspected, tested, or approved, the Contractor shall give the Project Manager, as designated by the City Manager, timely notice of its readiness so the Project Manager, as designated by the City Manager, may observe, provide or instruct such inspection, testing or approval. The Contractor shall bear all costs of such tests or approvals. Unless otherwise provided, the City shall bear all costs of other inspections. The Contractor shall pay for soils, compaction, and other testing required by the Contract Documents, to assure compliance with plans and specifications.

7.8.2 If the Project Manager, as designated by the City Manager, determines that any Work requires special inspection, testing, or approval which Paragraph 7.8.1 does not include, he will instruct the Contractor to order such special instruction, testing or approval, and the Contractor shall give notice as provided in Paragraph 7.8.1. If such special inspection or testing reveals a failure of the Work to comply with the requirements of the Contract Documents, the Contractor shall bear all costs thereof, including compensation for the City's additional services made necessary by such failure; otherwise the City shall bear such costs, and an appropriate Change Order shall be issued.

7.8.3 Required certificates of inspection, testing or approval from public agencies having jurisdiction over the Project shall be secured by the Contractor and promptly delivered by him to the Project Manager, as designated by the City Manager.

SECTION 8 - TIME

8.1 DEFINITIONS

8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for Completion of the Work as defined in Subparagraph 8.1.3, including authorized adjustments thereto.

8.1.2 The date of commencement of the Work is the date established in a Notice to Proceed for each project. If there is no notice to proceed, it shall be the date of the Owner-Contractor Agreement or such other date as may be established therein.

8.1.3 The Date of Completion of the Work is the Date certified by the Project Manager, as designated by the City Manager, when construction is complete, in accordance with the Contract Documents.

8.1.4 The term day as used in the Contract Documents shall mean calendar day unless otherwise specifically designated.

8.2 PROGRESS AND COMPLETION

8.2.1 All time limits stated in the Contract Documents are of the essence of the Contract.

8.2.2 The Contractor shall begin the work on the date of commencement as defined in Subparagraph 8.1.2. He shall carry the Work forward expeditiously with adequate forces and shall achieve Completion within the Contract Time.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 If the Contractor is delayed at any time in the progress of the Work by any act or neglect of the City or the Project Manager, as designated by the City Manager, or by any employee of either, or by any separate contractor employed by the City, or by changes ordered in the Work, or by labor disputes, fire, unusual delay in transportation, adverse weather conditions not reasonably anticipatable, unavoidable casualties, or any causes beyond the Contractor's control, or by delay authorized by the City pending arbitration, or by any other cause which the City Engineer or Project Manager, as designated by the City Manager, determines may justify the delay, then the Contract Time shall be extended by Change Order for such reasonable time as the Project Manager, as designated by the City Manager, may determine.

8.3.2 Any claim for extension of time shall be made in writing to the Project Manager, as designated by the City Manager, not more than twenty (20) days after the commencement of the delay. In the case of a continuing delay only one claim is necessary. The Contractor shall provide an estimate of the probable effect of such delay on the progress of the Work.

8.3.3 If no agreement is made stating the dates upon which interpretations as provided in Subparagraph 8.3.1 shall be furnished, then no claim for delay shall be allowed on account of failure to furnish such interpretations until fifteen (15) days after written request is made for them, and not then unless such claim is reasonable.

8.3.4 This Paragraph 8.3 does not exclude the recovery of damages for delay by either party under other provisions of the Contract Documents.

SECTION 9 – PAYMENTS AND COMPLETION

9.1 CONTRACT SUM

9.1.1 The Contract Sum for each project is the sum stated in the project's Notice to Proceed, including authorized adjustments thereto, is the total amount payable by the City to the Contractor for the performance of the Work under the Contract Documents.

9.2.1 Ten (10) days before the first Application for Payment, the City shall submit to the Contractor a schedule of values allocated to the various portions of the Work, in accordance with the Agreement, prepared in such form and supported by such data to substantiate its accuracy. This schedule shall be used only as a basis for the Contractor's Applications for Periodic Payments.

9.3 APPLICATIONS FOR PAYMENT

9.3.1 At least ten (10) days before the date for each progress payment established in the City-Contractor Agreement, the Contractor shall submit to the City and Project Manager, as designated by the City Manager, an itemized and completed Application for Payment, notarized, supported by such data substantiating the Contractor's right to payment as the City or the Project Manager, as designated by the City Manager, may require, and reflecting retainage, if any, as provided elsewhere in the Contract Documents.

9.3.1.1 Until Completion of the Work the City will pay ninety percent (90%) of the amount due the Contractor on account of progress payments. At Completion and Final Acceptance of the Work by the Project Manager, as designated by the City Manager, the City shall pay the retainage, less such amount as the City Engineer shall determine for all incomplete Work, unsettled claims and penalties as provided in the Contract Documents.

9.4 CERTIFICATES FOR PAYMENT

9.4.1 The Project Manager, as designated by the City Manager, will, within 10 days after the receipt of the Contractor's Application for Payment, either approve the application for payment to the Owner, with a copy to the Contractor, for such amount as the Project Manager, as designated by the City Manager, determines is properly due, or notify the Contractor in writing his reasons for withholding a Certificate as provided in Subparagraph 9.6.1.

9.4.2 The approval of the Application for Payment will constitute only a presentation by the City, based on the Project Manager's, (as designated by the City Manager) observations at the site as provided in Subparagraph 2.1.2 and the data comprising the Application for Payment that the Work has progressed to the point indicated; that to the best of his knowledge, information and belief, the quality of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Completion, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in his Certificate); and that the Contractor is entitled to payment in the amount certified. However, by issuing a Certificate for Payment, the Project Manager, as designated by the City Manager, shall not thereby be deemed to represent that he has made exhaustive or continuous on-site inspections to check the quality or quantity of the Work to relieve the Contractor of his responsibilities specified in the Agreement or that he has reviewed the construction means, methods, techniques, sequences or procedures, or that he has made any examination to ascertain how or for what purpose the Contractor has used the monies previously paid on account of the Contract Sum.

9.5 PROGRESS PAYMENTS

9.5.1 After the Project Manager, as designated by the City Manager, has approved the complete Application for Payment, the City shall make payment within fifteen (15) days to the Contractor.

9.5.2 The Contractor shall promptly pay each Subcontractor upon receipt of each payment from the Owner, out of the amount paid to the Contractor on account of such Subcontractor's Work, the amount to which said Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contractor on account of such Subcontractor's Work. The Contractor shall, by an appropriate agreement with each Subcontractor, require each Subcontractor to make payments to his Sub-subcontractors in a similar manner.

9.5.3 The Project Manager, as designated by the City Manager, may, on request and at his direction, furnish to any Subcontractor information regarding the percentages of completion or the amounts applied for by the Contractor and the action taken thereon by the Project Manager, as designated by the City Manager, on account of Work done by such Subcontractor.

9.5.3.3 Withholding Payment for Failure to Comply with American Recovery and Reinvestment Act of 2009: The Department will withhold progress payments from the Contractor for failure to comply.

9.5.4 Neither the City nor the Project Manager, as designated by the City Manager, shall have any obligation to pay or to see to the payment of any monies to any Subcontractor except as may otherwise be required by law.

9.5.5 No approval for a progress payment, nor any progress payment, nor any partial or entire use or occupancy of the Project by the City, shall constitute an acceptance of any Work not in accordance with the Contract Documents.

9.5.6 No approval for a progress payment shall be approved prior to Project Manager, as designated by the City Manager, receiving Partial Releases of Liens applicable to previous payments received by Contractor.

9.6 PAYMENTS WITHHELD

9.6.1 The Project Manager, as designated by the City Manager, may decline to approve payment and may withhold it in whole or in part, to the extent necessary reasonably to protect the City, if in his opinion he is unable to make representations to the City as provided in Subparagraph 9.4.2. If the Project Manager, as designated by the City Manager, is unable to make representations to the City as provided in Paragraph 9.4.2 and to certify payment in the amount of the Application, he will notify the Contractor as provided in Subparagraph 9.4.1. If the Contractor and the Project Manager, as designated by the City Manager, cannot agree on a revised amount, the Project Manager, as designated by the City Manager, will promptly approve the payment for the amount for which he is able to make such representations to the City. The Project Manager, as designated by the City Manager, also may decline to approve payment or, because of subsequently discovered evidence or subsequent observations, he may nullify the whole or any part of any approval for payment previously issued, to such extent as may be necessary in his opinion to protect the City from loss because of:

1. Defective Work not remedied;
2. Third party claims filed or reasonable evidence indicating probable filing of such claims, such as Notice;
3. Failure of the Contractor to make payments properly to Subcontractors for labor, materials or equipment. Project Manager, as designated by the City Manager, may request Partial Releases of Liens prior to payment;
4. Reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
5. Damage to the City or other contractor;
6. Reasonable evidence that the Work will not be completed within the Contract Time, or
7. Persistent failure to carry out the Work in accordance with the Contract Documents.

9.6.2 When the above grounds in Subparagraph 9.6.1 are removed, payment shall be made for amounts withheld because of them.

9.7 FAILURE OF PAYMENT

9.7.1 If the Project Manager, as designated by the City Manager, does not approve Application for Payment, through no fault of the Contractor, within 14 days after receipt of the Contractor's Application for Payment, then the Contractor may, upon 7 additional days' written notice to the City, stop the Work until payment of the amount owing has been received. The Contract Sum shall be increased by the amount of the Contractor's reasonable costs of shut- down, delay and start-up, which shall be effected by appropriate Change Order in accordance with Paragraph 12.3.

9.8 FINAL COMPLETION AND FINAL PAYMENT

9.8.1 Upon receipt of written notice that the Work is ready for final inspection and acceptance and upon receipt of a final Application for Payment, the Project Manager, as designated by the City Manager, will make such inspection and, when he finds the Work acceptable under the Contract Documents and the Contract fully performed, will promptly approve the Application for Payment, stating that to the best of his knowledge, information and belief, and on the basis of his observations and inspections, the work has been completed in accordance with the terms and conditions of the Contract Documents and that the entire balance found to be due the Contractor and noted in said approval is due and payable. The Project Manager's, (as designated by the City Manager), final approval for payment will constitute a further representation that the conditions precedent to the Contractor's being entitled to final payment as set forth in Subparagraph 9.9.2 have been fulfilled and the Contractor has met the requirements of **9.8.2**

9.8.2 Neither the final payment nor the remaining retained percentage shall become due until the Contractor submits to the Project Manager, as designated by the City Manager, (1) an affidavit that all payrolls, bills for materials and equipment, and other indebtedness connected with the Work for which the Owner or his property might in any way be responsible, have been paid or otherwise satisfied; (2) consent of surety, if any, to final payment; and (3) other data establishing payment or satisfaction of all such obligations, such as receipts, releases and waivers of liens arising out of the Contract, to the extent and in such form as may be designated by the City. If any Subcontractor, sub-subcontractor, material man, or laborer, refuses to furnish a release, or waiver, required by the City, the Contractor may furnish a bond satisfactory to the City, to indemnify him against any such lien. City may withhold all sums reasonably necessary for the claims of subcontractors, sub-subcontractors, material men, laborers or other who have asserted any claims, even if based upon purported additions, extras, or unexecuted change orders, which sums shall include interest, costs and reasonably anticipated attorneys' fee. If any claim remains unsatisfied after all payments are made, the Contractor shall refund to the City all monies that the latter may be compelled to pay in discharging such lien, including interest, all costs, and reasonable attorneys' fee.

9.8.3 The making of final payment shall constitute a waiver of all claims by the City except those arising from:

1. Unsettled liens, claims or notices of any kind by subcontractors, sub-subcontractors, material men, and laborers;
2. Faulty or defective Work appearing after Substantial Completion;
3. Failure of the Work to comply with the requirements of the Contract Documents; or
4. Terms of any special warranties required by the Contract Documents.

9.8.4 The acceptance of final payment shall constitute a waiver of all claims by the Contractor except those previously made in writing and identified by the Contractor as unsettled at the time of the final Application for Payment. By acceptance thereof, Contractor agrees to cooperate with City in disposing of any and all remaining claims of subcontractors, sub-subcontractors, material men, and laborers, and shall indemnify and hold harmless City from all such claims, including attorneys' fees, trial and appellate, and costs and expenses.

SECTION 10 – PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

10.1.1 The Contractor shall be responsible for initiating, maintaining, and supervising all safety precautions and programs in connection with the Work.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:

1. All employees on the Work and all other persons who may be affected thereby;
2. All the Work, and all materials and equipment to be incorporated therein, whether in storage on or off the site, under the care, custody or control of the Contractor or any of his Subcontractors or Sub-subcontractors; and
3. Other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction.

10.2.2 The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

10.2.3 The Contractor shall erect and maintain, as required by existing conditions and progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying owners and users of adjacent utilities. Without limiting the generality of the foregoing, the Contractor's ladders, scaffolds, lifts and other equipment, and those portions of the Contractor's work and temporary work which are utilized by the City and the Project Manager, as designated by the City Manager, and their employees in the observation of construction shall comply with all applicable laws, ordinances, rules, regulations, standards and orders of any public authority having jurisdiction for the safety of persons or property.

10.2.4 When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

10.2.5 The Contractor shall promptly remedy all damage or loss (other than damage or loss insured under to any property referred to in **Clauses 10.2.1.2 and 10.2.1.3**, caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable and for which the Contractor is responsible under except damage or loss attributable to the acts or omissions of the Owner or Project Manager, as designated by the City Manager, or anyone directly or indirectly employed by either of them, or by anyone for whose acts either of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to his obligations ~~under Subparagraph 4.1.8.~~

10.2.6 The Contractor shall designate a responsible member of his organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the City and the Project Manager, as designated by the City Manager.

10.2.7 The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.

10.3 EMERGENCIES

10.3.1 In any emergency affecting the safety of persons or property, the Contractor shall act, at his discretion, to prevent threatened damage, injury or loss. Any additional compensation or extension of time claimed by the Contractor on account of emergency work shall be determined as provided in Section 12 for Changes in the Work.

10.4 PROJECT MANAGER'S (AS DESIGNATED BY THE CITY MANAGER) STATUS

10.4.1 Without limiting the generality of Subparagraphs 2.2 and 2.3, the Project Manager, as designated by the City Manager, will not inspect or be responsible for the Contractor's compliance with the requirements of this Section 10.

SECTION 11 – INSURANCE (SEE CONTRACT DOCUMENTS - ARTICLE 17)

SECTION 12 – CHANGES IN THE WORK

12.1 CHANGE ORDERS

12.1.1 A Change Order is a written order to the Contractor signed by the Project Manager, as designated by the City Manager, issued after execution of the Contract, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time may be changed only by Change Order. A Change Order signed by the Contractor indicates his agreement therewith, including the adjustment in the Contract Sum or the Contract Time.

12.1.2 The City, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletions or other revisions, the Contract Sum and the Contract Time being adjusted accordingly. All such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents.

12.1.3 The cost or credit to the City resulting from a change in the Work shall be determined in one or more of the following ways:

1. By mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
2. By cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee.

12.2 CONCEALED CONDITIONS

12.2.1 Should concealed conditions encountered in the performance of the Work below the surface of the ground differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in this Contract be encountered, the Contract Sum may be equitably adjusted by Change Order upon claim by either party made within twenty (20) days after the first observance of the conditions.

12.3 CLAIMS FOR ADDITIONAL COST

12.3.1 If the Contractor wishes to make a claim for an increase in the Contract Sum, he shall give the Project Manager, as designated by the City Manager, written notice thereof within twenty (20) days after the occurrence of the event giving rise to such claim. This notice shall be given by the Contractor before proceeding to execute the Work, except in an emergency endangering life or property in which case the Contractor shall precede in accordance with Paragraph 10.3. No such claim shall be valid unless so made. If the Owner and the Contractor cannot agree on the amount of the adjustment in the Contract Sum, it shall be determined by the Project Manager, as designated by the City Manager. Any change in the Contract Sum resulting from such claim shall be authorized by Change Order.

12.3.2 If the Contractor claims that additional cost is involved because of, but not limited to, (1) any written interpretation pursuant to Subparagraph 2.3, (2) any order by the City to stop the Work pursuant to Paragraph 3.3 where the Contractor was not at fault; (3) any written order for a minor change in the Work issued pursuant to Paragraph 12.4, or (4) failure of payment by the City pursuant to Paragraph 9.7, the Contractor shall make such claim as provided in Paragraph 12.3.1.

12.4 MINOR CHANGES IN THE WORK

12.4.1 The Project Manager, as designated by the City Manager, will have authority to order minor changes in the Work not involving an adjustment in the Contract Sum or an extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be effected by written order (field order), and shall be binding on the Owner and the Contractor. The Contractor shall carry out such written orders promptly.

SECTION 13 – UNCOVERING AND CORRECTION OF WORK

13.1 UNCOVERING OF WORK

13.1.1 If any portion of the Work should be covered contrary to the request of the Project Manager, as designated by the City Manager, or to requirements specifically expressed in the Contract Documents, it must, if required by the Project Manager, as designated by the City Manager, be uncovered for his observation and shall be replaced at the Contractor's expense.

13.1.2 If any other portion of the Work has been covered which the Project Manager, as designated by the City Manager, has not specifically requested or required to observe prior to being covered, the Project Manager, as designated by the City Manager, may request to see such Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the City. If such Work be found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it is found that this condition was caused by the City or a separate contractor as provided in Section 6, in which event the City shall be responsible for the payment of such costs.

13.2 CORRECTION OF WORK

13.2.1 The Contractor shall promptly correct all Work rejected by the Project Manager, as designated by the City Manager, as defective or as failing to conform to the Contract Documents whether or not fabricated, installed, or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for the Project Manager, as designated by the City Manager, or his designee's additional services and inspections made necessary thereby.

13.2.2 If, within one year after the Date of Completion of the Work or designated portion thereof or within one year after acceptance by the City of designated Work or within such longer period of time as may be prescribed by law or by the terms of any applicable special warranty required by the Contract Documents, any of the Work is found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the City to do so unless the City has previously given the Contractor a written acceptance of such condition. This obligation shall survive termination of the Contract. The City shall give such notice promptly after discovery of the condition.

13.2.3 The Contractor shall remove from the site all portions of the Work which are defective or non-conforming and which have not been corrected under Subparagraphs 4.5.1, 13.2.1, and 13.2.2, unless removal is waived by the City.

13.2.4 If the Contractor fails to correct defective or non-conforming Work as provided in Subparagraphs 4.5.1, 13.2.1, and 13.2.2, the City may correct it in accordance with Paragraph 3.4.

13.2.5 If the Contractor does not proceed with the correction of such defective or non-conforming Work within a reasonable time fixed by written notice from the Project Manager, as designated by the City Manager, the City

may remove it and replace the materials or equipment at the expense of the Contractor. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the City.

13.2.6 The Contractor shall bear the cost of making good all work of the City or separate contractors destroyed or damaged by such correction or removal.

13.2.7 Nothing contained in this Paragraph 13.2 shall be construed to establish a period of limitation with respect to any other obligation which the Contractor might have under the Contract Documents, including Paragraph 4.5 hereof. The establishment of the time period of one year after the Date of Substantial Completion or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which his obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to his obligations other than specifically to correct the Work.

13.3 ACCEPTANCE OF DEFECTIVE OR NON-CONFORMING WORK

13.3.1 If the City prefers to accept defective or non-conforming Work, he may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

SECTION 14 – TERMINATION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

14.1.1 If the Work is stopped for a period of thirty (30) days under an order of any court or other public agency having jurisdiction, or as a result of an act of government, such as a declaration of a national emergency making materials unavailable, through no act or fault of the Contractor or a Subcontractor or their agents or employees or any other persons performing any of the Work under a contract with the Contractor, or if the Work should be stopped for a period of thirty (30) days by the Contractor because the Project Manager, as designated by the City Manager, has not approved an Application for Payment as provided in Paragraph 9.7 or because the City has not made payment thereon as provided in Paragraph 9.7, then the Contractor may, upon seven (7) additional days' written notice to the Project Manager, as designated by the City Manager, terminate the Contract and recover from the Owner payment for all Work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment and machinery, including reasonable profit and damages.

14.2 TERMINATION BY THE CITY

14.2.1 If the Contractor is adjudged a bankrupt, or if he makes a general assignment for the benefit of his creditors, or if a receiver is appointed on account of his insolvency, or if he persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workmen or proper materials, or if he fails to make prompt payment to Subcontractors or for materials or labor, persistently disregards laws, ordinances, rules, regulations or is guilty of a substantial violation of a provision of the Contract Documents, then the Owner, upon certification by the Project Manager, as designated by the City Manager, that sufficient cause exists to justify such action, may, without prejudice to any right or remedy and after giving the Contractor and his surety, if any, seven (7) days' written notice, terminate the employment of the Contractor and take possession of the site and of all materials, equipment, tools, construction equipment and machinery thereon

owned by the Contractor and may finish the Work by whatever method he may deem expedient. In such case the Contractor shall not be entitled to receive any further payment until the Work is finished.

14.2.2 If the unpaid balance of the Contract Sum exceeds the costs of finishing the Work, including compensation for the Project Manager's, as designated by the City Manager, additional services made necessary thereby, such excess shall be paid to the Contractor. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the City. The amount to be paid to the Contractor or to the City, as the case may be, shall be certified by the Project Manager, as designated by the City Manager, upon application, in the manner provided in Paragraph 9.4, and this obligation for payment shall survive the termination of the Contract.

SECTION 15 – UNFAVORABLE WEATHER AND OTHER CONDITIONS

15.1 During unfavorable weather and other unfavorable conditions, the Contractor shall pursue only such portions of the Work as shall not be damaged thereby. No portions of the Work whose satisfactory quality or efficiency will be affected by an unfavorable condition shall be constructed while these unfavorable conditions exist unless, by special means or precautions approved by the Project Manager, as designated by the City Manager, the Contractor shall be able to overcome them.

SECTION 16 – ENGINEERING AND FIELD INSPECTION EXPENSES DUE TO OVERTIME WORK AND UNAVOIDABLE DELAYS

16.1 The City shall charge to the Contractor and may deduct from the periodic and final payment for the Work all engineering and inspection expenses incurred by the City in connection with any overtime work during the contract construction period, including any time extension granted thereof, beyond the regular eight (8) hour day, (normal resident project representative working day), and for any time worked on Saturdays, Sundays, or Holidays.

16.2 In addition, these General Conditions provide for the payment by the Contractor to the City of all engineering and inspection expenses incurred as a result of unavoidable delays or correctness of the Work.

16.3 All engineering and inspection expenses, including direct costs incurred by the City due to the above specified conditions, shall be paid by the Contractor at the City's hourly rates, including all overhead.

SECTION 17 – BEFORE STARTING CONSTRUCTION

17.1 Before undertaking each part of the Work, Contractor shall carefully study and compare the Contract Documents and check and verify pertinent figures shown thereon and all applicable field measurements. Contractor shall promptly report in writing to the Project Manager, as designated by the City Manager, any conflict, error, or discrepancy which Contractor or any of his Subcontractors may discover and shall obtain a written interpretation or clarification from Project Manager, as designated by the City Manager, before proceeding with any work affected thereby; provided, however, Contractor shall not be liable to City or Project Manager, as designated by the City Manager, for failure to report any conflict, error, or discrepancy unless Contractor or any of his Subcontractors had actual knowledge thereof or should reasonably have known thereof.

17.2 Within ten (10) days after the effective date of the Agreement (unless otherwise specified in the General Requirements), Contractor shall submit to City and Project Manager, as designated by the City for review: (1) a progress schedule indicating the starting and completion dates of the various stages of the Work; (2) a proposed schedule of Shop Drawing Submissions; (3) a schedule of values of the Work; and (4) a listing of the monthly progress payments through the Contract Time. The Project Manager, as designated by the City Manager, may

require the schedule of values to be adjusted if in its opinion the breakdown does not accurately reflect the true distribution of the Contract Price.

17.3 No later than twenty (20) days after the effective date of the Agreement, but before Contractor starts the Work at the site, a conference will be held for review of the schedules to establish procedures for handling Shop Drawings and other submittals and for processing Applications for Payment, and to establish a working understanding among the parties as to the Work. Contractor shall attend such conference and shall require any or all of his Subcontractors, as Project Manager, as designated by the City Manager, directs, to attend the conference.

SECTION 18 – PRECEDENCE OF CONTRACT DOCUMENTS

18.1 In resolving conflicts and discrepancies between the Contract Documents, precedence shall be given in the following order:

Plans shall control over Technical Specifications; larger scale plans shall control over general plans; large scale details over small scale and figure dimensions; and figure dimensions over scaled dimensions. Addenda and change orders supersede only affected portions of the documents.

SECTION 19 – MEASUREMENT AND PAYMENT

19.1 DESCRIPTION OF REQUIREMENTS

19.1.1 Payment for the WORK, as further specified herein, shall include compensation to be received by the Contractor for furnishing tools, equipment, supplies, and manufactured articles, and for labor, operations, and incidentals appurtenant to the items of work being described, as necessary to complete the various items of the Work in accordance with the requirements of the Contract Documents, including appurtenances thereto, and including all costs of compliance with the regulations of public agencies having jurisdiction, including Safety and Health Requirements of the Occupational Safety and Health Administration of the U. S. Department of Labor (OSHA). No separate payment will be made for any item that is not specifically set forth in the Bid Schedule, and all costs therefore shall be included in the prices named in the Bid Schedule for the various appurtenant items of work.

19.1.2 The total Bid Price shall cover all work required by the Contract Documents. All costs in connection with the proper and successful completion of the work, including furnishing all materials, equipment, supplies, and appurtenances; providing all construction equipment, and tools; and performing all necessary labor and supervision to fully complete the Work, shall be included in the unit and Unit bid prices. All work not specifically set forth as a pay item in the Bid shall be considered a subsidiary obligation of Contractor and all costs in connection therewith shall be included.

19.1.3 Payment for all work done in compliance with the Contract Documents, inclusive of furnishing all manpower, equipment, materials, and performance of all operations relative to construction of this project, will be made under the Unit Bid Price.

19.1.4 The City reserves the right to alter the Drawings, modify incidental work if necessary, and increase or decrease quantities of work to be performed in accordance with such changes, including deduction or cancellation of any one or more of the Items. Changes in the work shall not be considered as a waiver of any conditions of the Contract nor invalidate any provisions thereof. When changes result in changes in the quantities

of work to be performed, and proposed change will cause substantial inequity to the City or Contractor the applicable unit prices shall be equitably adjusted by change order.

19.1.5 Quantities necessary to complete the work as shown on the Drawings or as specified herein shall govern over those shown in the Proposal or Bid Documents. The Contractor shall take no advantage of any apparent error or omission in the Drawings or Specifications, and the Project Manager, as designated by the City Manager, shall be permitted to make corrections and interpretations as may be deemed necessary for fulfillment of the intent of the Contract Documents.

19.1.6 The quantities for payment, other than Final Payment, under this Contract shall be determined on a percentage of the completed items, in place, ready for service and accepted by the City, in accordance with the applicable method of measurement therefore contained herein. A representative of the Contractor shall witness all field measurements.

SECTION 20

“DELETED”

SECTION 21 – COORDINATION

21.1 Contractor shall (1) coordinate scheduling, submittals, and work of the various sections of specifications to assure efficient and orderly sequence of installation of interdependent construction elements, (2) coordinate completion and clean-up of Work of separate sections of specifications in preparation for Substantial Completion, and (3) after City occupancy of premises, coordinate access to site for correction of defective Work and Work not in accordance with Contract Documents, to minimize disruption of City activities.

SECTION 22

“DELETED”

SECTION 23

“DELETED”

SECTION 24 –PRECONSTRUCTION CONFERENCE

24.1 Project Manager, as designated by the City Manager, will schedule a conference after Notice to Award.

24.2 Attendance Required: City, Contractor, Utilities Representatives. (Subcontractors if so requested by City.

24.3 Agenda:

1	Execution of City-Contractor Agreement;
2	Submission of executed bonds and insurance certificates;
3	Distribution of Contract Documents;
4	Submission of list of Subcontractors, and progress schedule;
5	Designation of personnel representing the parties in Contract, and the Project Manager, as designated by the City Manager;
6	Procedures and processing of field decisions, submittals, substitutions, applications for payment, proposal requests, Change Orders and Contract closeout procedures;
7	Scheduling
8	Scheduling activities of Testing Laboratory

SECTION 25 –PROGRESS MEETINGS

25.1 Project Manager, as designated by the City Manager, or Contractor may schedule meetings, at intervals, as required throughout progress of the Work. Each may make arrangements for meetings, prepare agenda with copies for participants, record minutes and distribute copies within three (3) days to participants and those affected by decisions made.

25.2 Agenda:

1	Review minutes of previous meetings;
2	Review of Work progress;
3	Field observations, problems, and decisions;
4	Identification of problems which impede planned progress;
5	Review of submittals schedule and status of submittals;
6	Review of off-site fabrication and delivery schedules;
7	Maintenance of progress schedule;
8	Corrective measures to regain projected schedules;
9	Planned progress during succeeding work period;
10	Coordinate of projected progress;
11	Maintenance of quality and work standards;
12	Effect of proposed changes on progress schedule and coordination;
13	Other business relating to Work

SECTION 26 – CONTRACT CLOSEOUT

26.1 DESCRIPTION

Scope of Work: Comply with requirements stated in Conditions of the Contract and in Specifications for administrative procedures in closing out the Work.

26.2 FINAL COMPLETION & INSPECTION

1. When Contractor considers the Work is complete, he shall submit written certification that: (1) Contract Documents have been reviewed, (2) Work has been inspected for compliance with Contract Documents, (3) Work has been completed in accordance with Contract Documents, (4) equipment and systems have been tested in the presence of the City's representative and are operational, and (5) Work is completed and ready for final inspection.

2. The Project Manager, as designated by the City Manager, will make an inspection to verify the status of completion with reasonable promptness after receipt of such certification.

3. Should the Project Manager, as designated by the City Manager, consider that the work is incomplete or defective: (1) the Project Manager, as designated by the City Manager, will promptly notify the Contractor in writing, listing the incomplete or defective work, (2) Contractor shall take immediate steps to remedy the stated deficiencies, and send a second written certification to the Engineer that the Work is complete, and (3) the Project Manager, as designated by the City Manager, will re-inspect the Work.

4. When the Project Manager, as designated by the City Manager, finds that the Work is acceptable under the Contract Documents, he shall request the Contractor to make closeout submittals.

26.3 REINSPECTION FEES

Should the Project Manager, as designated by the City Manager, perform re-inspection due to failure of the Work to comply with the claims of status of completion made by the Contractor, (1) the Contractor will compensate the City at their request for such additional inspection services, and (2) the City will deduct the expenses incurred for such inspection services.

26.4 CONTRACTOR'S CLOSEOUT SUBMITTALS

26.4.1 The Contractor shall submit to the Project Manager, as designated by the City Manager, the following documentation:

1. Evidence of compliance with requirements of governing authorities that issued permit or have jurisdiction over Work;
2. Warranties and Bonds;
3. Evidence of Payment and Release of Liens;
4. Project Record Documents that show the final location, by reference to at least two completed, visible improvements or other permanent control points, of the completed improvements for this project, verification of all design dimensions, any revisions to the Plans, and all other information necessary to horizontally and vertically locate and operate the improvements constructed under this Contract. Information to be shown includes the location and elevation of the structure, utility lines, the elevation referenced to NGVD 1929. No erasures are permitted. Where changes occur, cross out design information and denote constructed information.

The Contractor shall submit four sets of signed and sealed Record Drawing prints, and two electronic As-Built Drawings CD's supplied in digital format (AutoCAD).

END OF SECTION