

CITY OF ROHNERT PARK

INFORMAL BID REQUEST

**CONTRACT DOCUMENTS, SPECIAL PROVISIONS AND
STANDARD SPECIFICATIONS**

FOR

**HONEYBEE POOL RESTROOM AND CONCESSION BUILDINGS
ROOF REPLACEMENT**

PROJECT NO. 2019-31

BID DUE DATE: MAY 7, 2024



Prepared by
City of Rohnert Park-
Public Works Department
600 Enterprise Drive
Rohnert Park, CA 94928
(707) 588-3300

CITY COUNCIL

Mayor -Susan Hollingsworth Adams
Vice-Mayor – Gerard Giudice
Council Member – Emily Sanborn
Council Member – Jackie Elward
Council Member – Samantha Rodriguez

City Manager – Marcela Piedra
City Engineer – Vanessa Garrett

APPROVED FOR CONSTRUCTION:



4/22/24

**VANESSA MARIN GARRETT, R.C.E. 84141
CITY ENGINEER, CITY OF ROHNERT PARK
LICENSE EXPIRES SEPTEMBER 30, 2025**

DATE

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INVITATION FOR INFORMAL BIDS

HONEYBEE POOL RESTROOM AND CONCESSION BUILDINGS ROOF REPLACEMENT PROJECT NO. 2019-31

Notice is hereby given that on **Tuesday, May 7, 2024 at 2:00PM** at 600 Enterprise Drive, Rohnert Park, California, the City of Rohnert Park will receive bids for the Honeybee Pool Restroom and Concession Buildings Roof Replacement Project No. 2019-31 (“Project”). Sealed bids shall be dropped off in the mailbox to the left of the main door in front of the Department of Public Works Corporation Yard building, 600 Enterprise Drive, Rohnert Park, CA 94928, before **2:00 PM on Tuesday, May 7, 2024**. This is an informal bid process. The City will open bids and inform bidders of the results at a later date.

The Project is located at 1170 Golf Course Drive. The work is described generally as replacement of the roofs on the restroom and concession buildings. Please see Attachment A for more detailed information.

Contractor must have a valid California contractor’s license, a Class C-39 Roofing Contractor license. The Engineer’s estimate for this Project is \$90,000. The Contractor must begin work within fifteen (15) calendar days after official notice by the Project Manager to proceed with the work and must diligently prosecute the same to completion within 30 calendar days of that Notice.

Under California Labor Code Section 1770, *et seq.*, copies of the determination of the Director of the Department of Industrial Relations of the general prevailing rate of per diem wages for each craft, classification and type of workman needed to execute the work are on file in and available to any interested person on request at the Department of Public Works, or on the Internet at <http://www.dir.ca.gov/dlsr/PWD/index.htm>, and are incorporated herein. (Labor Code Sec. 1773.2.) Prevailing wage determinations must also be posted at each job site.

Labor Code Section 1725.5 provides that no contractor or subcontractor may be listed on a bid proposal for a public works project nor awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)]. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. All contractors and subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner (aka Division of Labor Standards Enforcement). The prime contractor must also post job site notices prescribed by regulation.

Per California Civil Code Section 9550, a payment bond in the amount of one hundred percent (100%) of the bid total will be required from the successful bidder for bids exceeding twenty-five thousand dollars (\$25,000). The bond must be provided within fifteen (15) calendar days from notice of award and prior to the performance of any work.

A performance bond and bid bond must also be provided for bids exceeding twenty-five thousand dollars (\$25,000).

For any moneys earned by the Contractor and withheld by the City of Rohnert Park to ensure the performance of the contract, the Contractor may, at its request and sole expense, substitute certain securities equivalent to the amount withheld in the form and manner and subject to the terms and conditions provided in the California Public Contracts Code Section 22300.

This notice incorporates by reference the terms, conditions and requirements of the specifications approved by the City, any and all changes or amendments to the specifications and special instructions or special notice issued or given to prospective bidders.

The City of Rohnert Park makes no representation or warranty of the condition of the jobsite. All

prospective bidders are requested to carefully review the project scope and to examine and conduct tests or otherwise satisfy themselves as to the conditions at the Project site, subject to coordination with the office of the Rohnert Park City Engineer.

Bids will be opened, examined and declared on said day and hour and referred to and considered by the City Manager and Assistant City Manager for approval. Each bid must be submitted on the bid forms furnished by the City, and each bid must include all the items shown on these forms. Substitute forms may be used if specified in this Notice.

A digital copy of the drawings and specifications can be obtained on the Bids page of the City of Rohnert Park website (www.rpcity.org/Bids). A hard copy of the drawings and specifications may be obtained from Draftech for a non-refundable fee. Draftech Blueprinting is located at 1544 Terrace Way, Santa Rosa, CA 95404, phone number 707-578-9442.

To ensure receipts of addendums, any party interested in the Project shall place their information with the Department of Public Works at 707-588-3300 or PWProjects@rpcity.org.

The City reserves the right, in its sole discretion, to reject any or all bids, to re-bid, or to waive inconsequential defects in bidding not involving time, price or quality of the work. The City may reject any and all bids and waive any minor irregularity in the bids.

Posted Date: April 22, 2024

/s/ SYLVIA LOPEZ CUEVAS
City Clerk of the City of Rohnert Park

INSTRUCTIONS TO BIDDERS

The bidder must file its bid with the Project Manager, Department of Public Works of the City of Rohnert Park, California, using the copy of the Bidder's Proposal and Schedule of Bid Prices furnished with the specifications. These documents, plus all other documents required to be submitted (other than the Statement of Qualifications submittal, as described in Statement of Qualifications for Construction Work, below ("SOQ")), must be placed in a sealed envelope marked,

HONEYBEE POOL RESTROOM AND CONCESSION BUILDINGS ROOF REPLACEMENT

PROJECT NO. 2019-31

Envelope "A"

and addressed to the Project Manager of the City of Rohnert Park, California.

The separate SOQ must be placed in a sealed envelope marked,

HONEYBEE POOL RESTROOM AND CONCESSION BUILDINGS ROOF REPLACEMENT

PROJECT NO. 2019-31

Envelope "B"

and addressed to the Project Manager, Attn: Laura Luchini. Said sealed bids (i.e., both Envelope A and Envelope B) must be dropped off in the mailbox to the left of the main door in front of the Department of Public Works Corporation Yard building, located at 600 Enterprise Drive, Rohnert Park, CA 94928 before 2:00 PM on May 7, 2024. The bidder must not file the book of Special Provisions or the Contract Drawings with his bid.

The bidders' attention is directed to the schedule of bid prices that requires this project be bid as a lump sum contract.

Bid Forms. Each proposal and all bid submittals must conform and be responsive to the Invitation and the Plans, Specifications and Contract documents.

The wording of the proposal and bid submittals must not be changed. Any additions, conditions, limitations, or provisions inserted by the bidder will render the proposal irregular and may cause its rejection. Erasures or interlineations in the proposal or other submittals must be explained or noted over the signature of the bidder.

In case of discrepancy between a unit price and the total price set forth for the unit price item, the unit price shall prevail. Discrepancies between the indicated sum of any column of numerals and the correct sum thereof will be resolved in favor of the correct sum. Discrepancies between written words and figures, or words and numerals, will be resolved in favor of the words.

Prices. All proposals must give the prices proposed, both in writing and in figures in the respective spaces provided, and must be signed by the bidder, who must fill out all blanks in the proposal form as therein required.

Rejection of Bids. Proposals may be rejected if they show any alterations of form, additions not called for, conditional proposals, incomplete proposals, erasures, or irregularities of any kind, excepting that erasures or delineations in the proposal will be accepted as provided under "Bid Forms" above.

When proposals are signed by an agent, other than the officer or officers of a corporation authorized to sign Contracts on its behalf or a member of a co-partnership, a Power of Attorney must be on file with the City prior to opening proposals or must be submitted with the proposal; otherwise, the proposal may be rejected

as irregular and unauthorized.

Bid Security. All proposals must be presented under sealed cover and accompanied by one of the following forms of bidder's security: Cashier's check, certified check, or a bidder's bond in the form provided herein, executed by an admitted surety insurer authorized to transact business in this State, made payable to the City. The submitted bidder's bond must be the City's bid bond. The security must be in an amount equal to at least ten percent (10%) of the proposal amount. A proposal will not be considered unless one of the forms of bidder's security is enclosed with it. A bidder's bond will not be accepted unless it has been properly filled out and executed by both the surety and the bidder.

Withdrawal of Bid. Any bid may be withdrawn at any time prior to the time fixed in the public notice for the opening of proposals only by a written request for withdrawal of the bid filed with the City Engineer. The request must be executed by the bidder or its duly authorized representative. The withdrawal of a bid does not prejudice the right of the bidder to file a new bid. No bid may be withdrawn after the time fixed in the public notice for the opening of bids.

Means of Submittal. Proposals may be submitted by e-mail or hard copy; however, proposals failing to reach the office of the City prior to the date and time set for receipt of same will not be considered.

Multiple Proposals. More than one proposal from an individual, a firm, partnership, corporation or an association under the same or different names, will not be considered. Reasonable grounds for believing that any bidder is interested in more than one proposal for the work contemplated will cause the rejection of all proposals in which such bidder is interested. If there is reason for believing that collusion exists among the bidders, none of the participants in such collusion will be considered in this or future proposals. Proposals in which the prices obviously are unbalanced may be rejected.

License Requirement. No proposal will be accepted from a Contractor who is not licensed in accordance with law under the provisions of Division III, Chapter 9, of the Business and Professions Code of the State of California, or from a Contractor that has been deemed irresponsible or unresponsive.

Subcontractors. Subcontractors listed by the bidder in accordance with the Special Provisions included herein must be properly licensed under the laws of the State of California for the type of work which they are to perform.

All bidders are hereby notified that they will be required to comply strictly with the provisions of Sections 4100 to 4113, inclusive, of the California Public Contract Code.

Each bidder must file with its proposal the name and location of the place of business, contractor's license number and Department of Industrial Relations registration number, of each Subcontractor who will perform a portion of the Contract work in an amount in excess of one-half of one percent (0.5%), or in the case of bids for the construction of streets or highways, including bridges, in excess of one-half of one percent (0.5%) of the total bid or ten thousand dollars (\$10,000). In each such instance, the nature and extent of the work to be sublet must be described.

The General Contractor to whom the Contract is awarded will not be permitted, without the written consent of the City, to substitute any person as Subcontractor in place of the Subcontractor designated in the original proposal, or to permit any Subcontract to be assigned or transferred, or to allow it to be performed by anyone other than the original Subcontractor. The City may consent to the substitution of another person as Subcontractor if the original Subcontractor, after having reasonable opportunity to do so, fails or refuses to execute the written Contract presented to it by the General Contractor, when said written Contract is based upon the conditions of the general Contract and complies with the Subcontractor's written proposal.

The failure of the Contractor to specify a Subcontractor for any portion of the Contract work in excess of one-half of one percent (0.5%) of the total Contract price must be deemed to indicate that the Contractor intends

to perform such portion itself. The subletting or Subcontracting of work for which no Subcontractor was designated in the original proposal and which is in excess of one-half of one percent (0.5%) of the total Contract price will be allowed only with the written consent of the City and then only in cases of public emergency or necessity as determined by the City. Under such circumstances, the City is required to establish the facts constituting the emergency or necessity and to reduce its findings to a written public record.

Violations of the provisions of these specified sections of the Code must be deemed to be a violation of the Contract, and the City, because of any such violations, may cancel the Contract. The Contractor, after any such violations, will be penalized up to twenty percent (20%) of the amount of the Subcontract involved.

Material. The bidder may be required to furnish, as part of the submittal process, a complete statement of the origin, composition, and manufacture of any or all materials to be used in the construction of the work, together with samples. Such samples may be subjected to the tests provided for in these specifications or in the Special Provisions to determine their quality and fitness for the work.

Additional Requirements. The bidder's attention is directed to Section 3 of the General Provisions for additional proposal requirements and conditions, and information regarding award and execution of the contract. Contractor submitting a bid to the City of Rohnert Park, a public entity, must state, under penalty of perjury, the contractor's license number and the license's expiration date. This information must be entered in the Schedule of Bid Prices. No contractor or subcontractor may be awarded a contract for public work on a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code Section 1725.5.

Explanations and Addenda. Any explanation desired by the bidders regarding the meaning or interpretation of the drawings and specifications must be requested in writing and in sufficient time to allow for a written reply to reach them and all other potential bidders before the date and time for submission of bids. Oral explanation or instructions given before award of the contract will not be binding. Any interpretations made will be in the form of an addendum to the specifications or drawings and will be furnished to all bidders and its receipt by the bidder must be acknowledged. Any explanation that makes a material change, addition, or deletion to the terms of the Invitation for Sealed Bids shall be issued no less than seventy-two (72) hours before the date and time for submission of bids. If an explanation making a material change, addition, or deletion must be issued less than seventy-two (72) hours before the scheduled date and time for submission of bids, the date and time for submission shall be extended so that a full seventy-two (72) hours is provided for analysis of the change, addition, or deletion.

Quantity of Work. The quantity of work for the unit price items to be done under the contract as noted in the Bid Schedule is but an estimate and is not to be taken as an expressed or implied statement that the actual quantity of work will correspond to the estimate. The right is reserved to increase or decrease, or to entirely eliminate items from the work if found desirable or expedient. The Contractor will be allowed no claims for anticipated profits, loss of profits, or for any damages of any sort because of any difference between the estimated and the actual quantities of work done.

The quantities given in the schedule for unit price items are for comparing proposals and may vary from the actual final quantities. Some quantities may be increased and others may be decreased or entirely eliminated, and no claim must be made against the City for damage occasioned thereby or for loss of anticipated profits, the Contractor being entitled only to compensation for the actual work done at the unit prices proposal.

The City reserves and must have the right to increase or decrease the quantities of work to be performed under a scheduled unit item or to entirely omit the performance thereof and upon decision of the City to so do, the City Engineer will direct the Contractor to proceed with the said work as so modified. If an increase in the quantity of work so ordered should result in delay to the work, the Contractor will be given an equivalent extension of time.

All estimates and all measurements used in determining the quantities of unit price items of work done, the percentage of completion of lump sum items of work, and the quantity of materials furnished under the Contract at various times during the progress of the work must be the Engineer's estimates and measurements. The planimeter must be considered an instrument of precision adapted to the measurements of all areas.

Insurance. The bidders' attention is drawn to Special Provisions – Location and Description of Work and Special Provisions – Minimum Limits of Insurance.

Inspection of Site. The bidder must examine carefully the site of the work contemplated and the proposal, plans, specifications, and the Contract form therefor. It will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and quantities of work to be performed and materials to be furnished, and as to the requirements of these specifications, the Special Provisions, and the Contract.

Where of the City has investigated the subsurface conditions in respect to foundation or other design, bidders may inspect the City's investigation records, including examination of samples, if available. When the Plans include a log of test borings showing a record of the data obtained in the City's investigation of subsurface conditions, said log represents only the City's opinion as to the character of material encountered by it in its test borings and is only included for the convenience of bidders.

Investigations of subsurface conditions are made for the purpose of design. The City assumes no responsibility whatsoever in respect to the sufficiency or accuracy of borings or of the log of test borings or other preliminary investigations, or of the interpretation thereof, and there is no guaranty, either expressed or implied, that the conditions indicated are representative of those existing throughout the work, or any part of it, or that uninvestigated developments may not occur.

Making such information available to the bidders is not to be construed in any way as a waiver of the provisions of the first paragraph of this article and bidders must satisfy themselves through their own investigations as to conditions to be encountered.

No information derived from such inspection of the records of preliminary City investigations or from the maps, plans, specifications, profiles or drawings will in any way relieve the Contractor from any risk from properly fulfilling all the terms of the Contract.

Records of such preliminary City investigations may be inspected at the office of the Engineer.

Pre-construction Meeting. At the pre-construction meeting, the successful bidder must submit a CPM progress schedule which will show the time he/she proposes to occupy in prosecuting the various major divisions of work and his/her proposed sequence of operations. The CPM progress schedule must be subject to the approval of the City Engineer.

Adjustment of Schedule. If at any time the construction schedule is inadequate to secure completion of the work within the time specified, and the work is being prosecuted inadequately or improperly, the Engineer may require the Contractor to submit a revised progress schedule, providing for proper and timely completion of the work.

The Contractor is not entitled to additional compensation on account of revisions required by the City.

BIDDER'S PROPOSAL

HONEYBEE POOL RESTROOM AND CONCESSION BUILDINGS ROOF REPLACEMENT
PROJECT NO. 2019-31

To: City Council, City of Rohnert Park

The undersigned hereby declares:

- (a) That the only persons or parties interested in this proposal as principals are the following:

_____.
(If the bidder is a corporation, give the name of the corporation and the name of its president, secretary, treasurer, and manager. If a co-partnership, give the name under which the co-partnership does business, and the names and addresses of all co-partners. If an individual, state the name under which the contract is to be drawn.)

- (b) That this proposal is made without collusion with any other person, firm, or corporation.
- (c) That he/she has carefully examined the locations of the proposed work and has familiarized himself/herself with all of the physical and climatic conditions and makes this bid solely upon his/her own knowledge.
- (d) That he/she has carefully examined the scope of work and makes this proposal in accordance therewith.
- (e) That, if this bid is accepted, he/she agrees to enter into an agreement with City in the form included in the Contract Documents to complete all work as specified in the Contract for the contract price and within the contract time indicated in this bid and in accordance with the Contract Documents.
- (f) That this bid will remain open and not be withdrawn for the period specified in the Instructions to Bidders.
- (g) That he/she has read the insurance requirements in Section 2.03, Insurance in the Special Provisions section of this bid document;
- (h) That he/she has conferred with his/her insurance carriers or brokers to determine in advance of the bid submission the availability of insurance certificates and endorsements as prescribed and provided herein;
- (i) That if the bid is accepted, he/she will enter into a written contract and within fifteen (15) calendar days furnish the required proof of insurance including certificates and endorsements;
- (j) That failure to comply strictly with the insurance requirements may result in forfeiture of the bid security and withdrawal of the bid proposal.
- (k) That he/she is properly licensed in accordance with California Business and Professions Code section 7000 *et seq.* Bidder acknowledges that if the bidder is not properly licensed at the time the bid is awarded or as otherwise required by law, the bid will be considered non-responsive and will be rejected.
- (l) That he/she and any subcontractor relied on by him/her will keep an accurate payroll record, showing the name, address, Social Security number, work classification, straight time and overtime hours worked each day and week, and the actual per diem wages paid to each journeyman, apprentice, worker, or other employee employed by the contractor or subcontractor in connection with the public work, as more fully set forth in the Contract. All contractors and subcontractors must furnish electronic certified payroll records directly to the Labor Commissioner (aka Division of Labor

Standards Enforcement).

- (m) That in compliance with the Subletting and Subcontracting Fair Practices Act, California Public Contracts Code Section 4100, *et seq.*, he/she has listed on the attached "List of Subcontractors" each subcontractor who will perform work or labor or render service to the bidder in or about the construction of the work or will specifically fabricate and install a portion of the work in an amount in excess of one half of one percent (0.5%) of the total bid sum or in the case of bids or offers for the construction of streets or highways, including bridges, in excess of one-half of one percent (0.5%) of the total bid or ten thousand dollars (\$10,000), whichever is greater, and that no subcontractors may be used other than those specified without written approval of the City Engineer.

Accompanying this proposal is a certified or cashier's check, or bidder's bond payable to the order of the City Clerk of the City of Rohnert Park, in the sum of _____ dollars (\$ _____). Said bidder's bond is the City's bid bond form. Said bidder's bond has been duly executed by the undersigned bidder and by a financially sound surety company admitted in the State of California.

It is understood and agreed that should the bidder fail within fifteen (15) calendar days after the date of mailing written notice to the successful bidder that the contract has been awarded, to enter into the contract and furnish acceptable surety bonds and insurance on forms included herein, then the proceeds of said check, or bidder's bond, will become the property of the City. But if the contract is entered into and said bonds are furnished or if the bid is not accepted, then said check will be returned to the undersigned or the bidder will be released from the bidder's bond.

Address of Bidder

Telephone Number of Bidder

City, State, Zip

Signature of Bidder

SCHEDULE OF BID PRICES

HONEYBEE POOL RESTROOM AND CONCESSION BUILDINGS ROOF REPLACEMENT

PROJECT NO. 2019-31

In accordance with the plans and specifications approved by the City of Rohnert Park, the undersigned bidder is submitting the following bid prices for the performance of the entire proposed work as described in these specifications and attached drawings:

ITEM NO.	ITEM DESCRIPTION	QUANTITY	UNIT	UNIT PRICE	TOTAL COST
1	Restroom Building Roof Replacement	1	LS		
2	Concession Building Roof Replacement	1	LS		

Total Amount of Bid (written in words) is: _____
_____ dollars
and _____ cents.
Any discrepancy between words and figures shall be resolved as provided in the Instructions to Bidders.

\$ _____
(Figures)

Address of Bidder

Signature of Bidder

City, State, Zip

Name of Bidder (Print)

Telephone Number of Bidder

FAX Number of Bidder

Contractor's License Number

License's Expiration Date

Contractor's DIR Number

Contractor's email address

ADDENDUM ACKNOWLEDGEMENT

ADDENDUM #1 Date _____ Signature acknowledging receipt: _____

ADDENDUM #2 Date _____ Signature acknowledging receipt: _____

ADDENDUM #3 Date _____ Signature acknowledging receipt: _____

CONTRACTOR'S LICENSE DECLARATION
(Business and Professions Code Section 7028.15)

The undersigned declares that he or she is _____ of _____ (party making foregoing bid) (hereinafter the "Bidder")

1. Bidder's Contractor's License Number is as follows:_____.
2. The expiration date of Bidder's Contractor's License is _____, 20__.
3. Bidder acknowledges that pursuant to Business and Professions Section 7028.15(a) it is a misdemeanor for any person to submit a bid to a public agency in order to engage in the business or act in the capacity of a contractor within this State without having a license therefor, except as provided therein.

The undersigned declares, under penalty of perjury, that the representations made by the undersigned in this bid proposal are true and correct.

Executed on _____, 20 __, at _____ (insert city and state where Declaration signed).

Signature

Typed Name

Title

Name of Bidder

LIST OF SUBCONTRACTORS

In accordance with the provisions of Public Contract Code Sections 4102 to 4108, inclusive, each bidder must list below the name and location of place of business, contractor's license number and Department of Industrial Relations registration number of each subcontractor who will perform a portion of the contract work in an amount in excess of one-half of one percent (0.5%) of the total contract price. In each such instance, the nature and extent of the work to be sublet must be described.

Subcontractor name, California Contractor's License Number and DIR Registration Number	Location of Place of Business	Description of Work to be Performed (also show bid Schedule Item No.)	Percentage of total contract work to be performed
Name:			
CLN:			
DIR:			
Name:			
CLN:			
DIR:			
Name:			
CLN:			
DIR:			
Name:			
CLN:			
DIR:			
Name:			
CLN:			
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Name:			
CLN:			
DIR:			
Name:			
CLN:			
DIR:			
Name:			
CLN:			
DIR:			

[Add additional sheets if necessary]

**Note, the Subletting and Subcontracting Fair Practices Act also requires inclusion of any subcontractor who specially fabricates and installs a portion of the work according to detailed drawings.

BID BOND

Bond No. _____

WHEREAS, _____ (“Principal”) intends to submit a bid to the City of Rohnert Park (“City”) for the above-referenced Project, and the terms of the bid require the Principal to submit bidder's security.

NOW, THEREFORE, Principal and _____, a corporation organized and existing under the laws of the State of _____ and duly authorized to transact business under the laws of the State of California, as Surety, are held and firmly bond unto City in the sum of _____ dollars (\$ _____) lawful money of the United States of America, such sum being not less than ten percent (10%) of the bid amount for the payment of which sum to be made, the Principal and Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

THE CONDITION OF THIS OBLIGATION IS SUCH THAT, if the Principal submits a bid for the above-referenced Project, the terms and conditions of which are incorporated herein by reference, and if said bid is rejected by the City, or if said bid is accepted by the City and the Bidder properly executes and submits to the City the Agreement and all required documents (including the Performance bond, the Payment Bond, and the proof of insurance), then this obligation will be null and void; otherwise it will remain in full force and effect.

The Surety hereby agrees, for value received, that its obligations under this bond must in no way be impaired or modified by any agreement between the City and the Principal to extend the time within which the City may accept the Principal’s bid, and the Surety hereby waives notice of any such extension.

In the event suit is brought upon this bond, the Surety must pay reasonable attorneys’ fees and costs incurred by the prevailing parties in such suit, which fees and costs must be in addition to the face amount of the bond.

IN WITNESS WHEREOF, the undersigned represent and warrant that they have the right, power, legal capacity, and authority to enter into and execute this document on behalf of the Principal and the Surety and have caused this document to be executed by setting hereto their names, titles and signatures.

Principal: _____
(Name of Firm)

Surety: _____
(Name of Firm)

By: _____

By: _____

Title: _____

Title: _____

Date: _____

Date: _____

Address for Notices to Surety:

Note: Notary acknowledgment for Surety and Surety’s Power of Attorney must be attached.

NONCOLLUSION DECLARATION

TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

The undersigned declares:

I am the _____ of _____, the party making the foregoing bid.

The bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation. The bid is genuine and not collusive or a sham. The bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid. The bidder has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or to refrain from bidding. The bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder. All statements contained in the bid are true. The bidder has not, directly or indirectly, submitted their bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof, to effectuate a collusive or sham bid, and has not paid, and will not pay, any person or entity for such purpose.

Any person executing this declaration on behalf of a bidder that is a corporation, partnership, joint venture, limited liability company, limited liability partnership, or any other entity, hereby represents that he or she has full power to execute, and does execute, this declaration on behalf of the bidder.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that this declaration is executed on _____ [date], at _____ [city], _____ [state].

Firm (print or type)

Signature

DECLARATION OF ELIGIBILITY TO CONTRACT

The undersigned, a duly authorized representative of the bidder, certifies and declares that:

1. The bidder is aware of California Labor Code Sections 1771.1 and 1777.7, which prohibit a contractor or subcontractor who has been found by the Labor Commissioner or the Director of Industrial Relations to be in violation of certain provisions of the Labor Code from bidding on, being awarded, or performing work as a subcontractor on a public works project for specified periods of time.
2. The bidder is not prohibited from bidding on, being awarded, or performing work as a contractor or subcontractor on a public works project under Labor Code sections 1771.1 and 1777.7, or any other provision of law.
3. The bidder is aware of Public Contract Code Section 6109, which states:
 - (a) A public entity, as defined in Section 1100 [of the Public Contract Code], may not permit a contractor or subcontractor who is ineligible to bid or work on, or be awarded, a public works project pursuant to Section 1771.1 or 1777.7 of the Labor Code to bid on, be awarded, or perform work as a subcontractor on, a public works project. Every public works project shall contain a provision prohibiting a contractor from performing work on a public works project with a subcontractor who is ineligible to perform work on the public works project pursuant to Section 1777.1 or 1777.7 of the Labor Code.
 - (b) Any contract on a public works project entered into between a contractor and a debarred subcontractor is void as a matter of law. A debarred subcontractor may not receive any public money for performing work as a subcontractor on a public works contract, and any public money that may have been paid to a debarred subcontractor by a contractor on the project will be returned to the awarding body. The contractor is responsible for the payment of wages to workers of a debarred subcontractor who has been allowed to work on the project.
4. The bidder has investigated the eligibility of each and every subcontractor that bidder intends to use on this public works project and has determined that none of them is ineligible to perform work as a subcontractor on a public works project by virtue of Public Contract Code Section 6109, Labor Code Sections 1771.1 and 1777.7, or any other provision of law.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct.

Executed this _____ day of _____, 20____, at _____, California.

Signature and Title of Authorized Official

IN-USE OFF-ROAD DIESEL-FUELED FLEETS
CERTIFICATION

TO BE EXECUTED BY ALL BIDDERS AND SUBMITTED WITH BID

The undersigned Bidder certifies to Owner as set forth in sections 1 through 2, below.

1. Certification of Compliance. I hereby certify that I and all of my Subcontractors will conform to the California Air Resource Board (CARB) In-Use Off-Road Diesel-Fueled Fleets requirements for all work involving the use of vehicles subject to the regulations, including, without limitation, as applicable, the Contracting Requirements in Title 13 CCR section 2449, subdivision (i), subparts (1) – (4), and the Prime Contractor Requirements in Title 13 CCR section 2449, subdivision (j), subparts (1) – (5).

2. Instructions. Check one (1) box below.

Bidder's current CARB issued Certificate of Reported Compliance accompanies this Certification. (If this box is checked, the Certificate *must be* provided.)

Bidder certifies that its work on the Project (including work of its Subcontractors) does not involve the use of vehicles subject to the CARB In-Use Off-Road Diesel-Fueled Fleets requirements.

BIDDER: _____
(Name of Bidder)

Date: _____, 202__ By: _____
(Signature)

Name: _____
(Print Name)

Its: _____
(Title)

STATEMENT OF QUALIFICATIONS FOR CONSTRUCTION WORK

ARTICLE 1 – GENERAL INFORMATION

1.01 Minimum Bidder Qualification.

- A. Bidders must be duly licensed, pursuant to the license requirements in Invitation for Sealed Bids, and in accordance with the California Business & Professions Code §§7006, *et seq.*, and have a history of work performance sufficient to meet the requirements of a responsible bidder in the Public Contract Code Section 1103.
- B. Bidders must have at least five (5) years' experience as a continuously operating entity engaged in the performance of similar work.
- C. Bidders must demonstrate successful experience with Cold Applied Two-Ply Thermoplastic Hybrid Roof Systems, under a current contractor's license, to include, within the past two (2) years, completion of three (3) projects of a similar nature and complexity with a contract dollar amount of (i.) at least 75% of the amount of Bidder's Bid each or (ii.) 125% of such amount in the aggregate.
- D. Bidders must also have an acceptable and qualified Project Manager, and an acceptable and qualified Project Superintendent/Foreman (together, "Key Personnel"). The Project Superintendent must have a minimum of three (3) years' experience with the installation of Cold Applied Two-Ply Thermoplastic Hybrid Roof Systems similar to that specified by Bidder. (The successful Contractor must maintain a full-time Supervisor/Foreman on the job-site at all times during installation of the new roof system. See Special Conditions 5-7.)

1.02 Measurement.

- A. Bidder's compliance with the minimum qualification requirements will be measured by Bidder's experience as an operating entity and also by the experience of the supervisory personnel who will have responsible charge of the various major components of the Work.
- B. The qualifications of the Key Personnel are to be submitted with the Statement of Qualifications submittal ("SOQ"), by providing the information described in this document.

ARTICLE 2 – REQUIRED CONTENTS OF SOQ SUBMISSION (ENVELOPE B)

2.01 Transmittal Letter.

- A. The Transmittal Letter shall name the proposed prime contractor, its legal structure (i.e., corporation, partnership, limited partnership, joint venture). If a joint venture or partnership is proposed, Bidder shall identify partner and/or member of the joint venture and their roles and responsibilities.

2.02 Submittals.

- A. **Completed Questionnaire.** Bidder shall include a completed Statement of Qualification Questionnaire in the form attached to this document as Attachment A.
- B. **Licenses.** Evidence of a valid contractor's license and required licenses of all licensees of persons who are Key Personnel necessary to perform the Work.
- C. **Summary of Company History.** Bidder shall include a brief company history stating years in service, including a minimum of five (5) years of active continuous experience in commercial installation of two -ply thermoplastic membrane roof systems, under a current contractor's license.

- D. **Two-Ply Thermoplastic Hybrid Roof System Manufacturer and Installation Certification.**
1. Bidder shall specify its proposed two-ply thermoplastic hybrid roof system manufacturer for the work of this Project.
 2. Bidder shall submit written evidence that either it or a Designated Subcontractor holds a manufacturer certification to install specified system.
- E. **Resumes of Key Personnel.** Bidder shall provide a resume for each named Key Personnel of Bidder, to include as necessary: Years of experience; Education - degrees, schools and years obtained; Professional Registrations; Fluency in English (Yes/No); At least two client references, including contact names, addresses and telephone numbers, and description of projects of a similar nature worked on in the past five years.

2.03 Format.

- A. The SOQ shall be clear and concise to enable management-oriented personnel to make a thorough evaluation and arrive at a sound determination as to whether the SOQ meet Owner's requirement. To this end, the SOQ should be so specific, detailed and complete as to demonstrate clearly and fully that the Bidder has a thorough understanding of and has demonstrated knowledge of the requirements to perform the Work (or applicable portion thereof).
- B. Any explanation requested by a Bidder regarding the meaning or interpretation of this Document must be requested in writing and with sufficient time allowed for a reply to reach Bidder before the submission of its SOQ. Oral explanations or instructions will not be binding. Any information provided to any prospective Bidder concerning this Document will be furnished to all prospective Bidders as an Addendum to the Bidding Documents.

ATTACHMENT A – Statement of Qualification Questionnaire

Bidders shall complete the entire Statement of Qualification Questionnaire and submit it in accordance with Instructions to Bidders and Statement of Qualifications. Failure to complete the questionnaire or inclusion of any false statement(s) shall be ground for immediate disqualification.

CONTACT INFORMATION

Company Name: _____

Owner of Company: _____

Contact Person: _____

Address: _____

Phone: _____ Fax: _____

Email: _____

PART A: GENERAL INFORMATION

1. Does Bidder possess a valid and current California Contractor’s license for the work proposed? Yes ___ No ___
2. Has Bidder’s License been revoked at any time in the last five years? Yes ___ No ___
3. Has Bidder been “default terminated” by an Owner (other than for convenience), or has a Surety completed a contract for Bidder within the last five years? Yes ___ No ___
4. Has Bidder been convicted more than twice for failure to pay prevailing wages in the last three years? Yes ___ No ___
5. Are Bidder and all listed subcontractors registered and qualified with the Department of Industrial Relations pursuant to Labor Code Section 1725.5? Yes ___ No ___
6. Did Bidder include its summary of company history described in Paragraph 2.02C. Yes ___ No ___
7. Did Bidder include written evidence that either it or a Designated Subcontractor holds a manufacturer certification to install specified system? (See Paragraph 2.02.D.2) Yes ___ No ___
8. Did Bidder include a written resume for each of its proposed Key personnel? (See Paragraph 2.02.E) Yes ___ No ___

9. Has Bidder had retention withheld on a City Project past the 35 day lien Yes ___ No ___ period?

9a. If Bidder answered YES to Question 9 please describe why:

**Bidder may be disqualified if any answer to questions 1, 5, 6, 7, or 8 is No.
Bidder may be disqualified if any answer to questions 2, 3, 4 or 9 is Yes.**

PART B: PREVAILING WAGE AND LICENSE PROVISIONS

Prevailing Wage Provisions

1. Has Bidder been fined, penalized or otherwise found to have violated any prevailing wage or labor code provision? If yes, attach description of each occurrence.
Yes _____ No _____

License Provisions

1. Has Bidder changed names or license numbers in the past 5 years? If so, please state reason for change.
Yes _____ No _____ Reason: _____

PART C: EXPERIENCE OF PRIME CONTRACTOR

The nature of this Project requires prior similar experience for the firm and the Key Personnel assigned. Summarize similar project experience below and provide the detailed project information requested:

Prime Contractor Projects.

Provide information about **three (3)** completed projects of similar size and scope to the Work of the Contract completed in the past **two (2)** years. Names and references must be current and verifiable. This listing will be used to assess compliance with the stated minimum qualifications in Paragraph 1.01. If a separate sheet is used, it must contain all of the following information:

- 1. Project Name: _____
Location: _____
Owner: _____
Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): - _____

Const. Mgr. or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

2. Project Name: _____

Location: _____

Owner: _____

Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): _____

Const. Mgr. or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

3. Project Name: _____

Location: _____

Owner: _____

Owner Contact (name and phone): _____

Architect/Engineer: _____

Architect/Engineer Contact (name and phone number): _____

Const. Mgr. or Project Mgr. (name and phone number): _____

Description of Project, Scope of Work Performed: _____

Total Construction Cost: _____

Key Personnel.

List Key Personnel that will be assigned to the Work of the current Project and their experience/training with the projects listed above:

Project Manager: _____

Project Superintendent/Foreman: _____

Key Personnel.

List Key Personnel that will be assigned to the Work of the current Project and their experience/training with the projects listed above:

Project Manager: _____

Project Superintendent: _____

Bidder hereby declares under penalty of perjury that all the information provided in this questionnaire is true and correct.

SIGNATURE

TITLE

END OF DOCUMENT

C O N T R A C T

HONEYBEE POOL RESTROOM AND CONCESSION BUILDINGS ROOF REPLACEMENT

PROJECT NO. 2019-31

THIS AGREEMENT is made and entered into this _____ day of _____, 20____, by and between _____, (“Contractor”) and the City of Rohnert Park, (“City”).

WHEREAS, the City Council of said City has awarded a contract to Contractor for performing the work hereinafter mentioned in accordance with the sealed proposal of said Contractor.

NOW, THEREFORE, IT IS AGREED, as follows:

1. Scope of Work: Contractor must perform all the work and furnish all the labor, materials, equipment and all utility and transportation services required to complete all of the work of construction and installation of the improvements the items and quantities of which are more particularly set forth in Contractor’s bid therefor on file in the office of the City Clerk, except work to be performed by subcontractors as set forth in Contractor’s bid and for which Contractor retains responsibility.

2. Time of Performance and Liquidated Damages:

A. Contractor must begin work within fifteen (15) calendar days after official notice by the Project Manager to proceed with the work and must diligently prosecute the same to completion within **30 calendar days** of that Notice. Contractor acknowledges and agrees that time is of the essence with respect to Contractor’s work and that Contractor shall diligently pursue performance of the work.

B. In the event Contractor does not complete the work within the time limit so specified or within such further time as said City Council must have authorized, the Contractor must pay to the City liquidated damages in the amount of two thousand, eight hundred dollars (\$2,800) per day for each and every day’s delay in finishing the work beyond the completion date so specified. Additional provisions with regard to said time of completion and liquidated damages are set forth in the specifications, which provisions are hereby referred to and incorporated herein by reference.

3. Payments:

A. City will pay Contractor for said work performed at the times and in the manner provided in the specifications and at the unit prices stated in Contractor’s bid.

B. The award of the contract is for a total amount not to exceed <<AMOUNT [words (\$____)]>>.

4. Component Parts and Interpretation:

A. This contract consists of the following documents, each of which is on file in the office of the City Clerk and all of which are incorporated herein and made a part hereof by reference thereto (“Contract Documents”):

- 1) This Agreement
- 2) Notice Inviting Sealed Proposals
- 3) Instruction and Information to Bidders

- 4) Accepted Proposal, with all attachments and certifications
- 5) Performance Bond
- 6) Payment Bond
- 7) Special Provisions
- 8) Standard Specifications
- 9) Technical specifications
- 10) Design Standards
- 11) Plans, Profiles and Detailed Drawings

B. In the event of conflict between these documents, the following order of precedence will govern: this Agreement; change orders; supplemental agreements and approved revisions to plans and specifications; special conditions; standard specifications; detail plans; general plans; standard plans; and reference specifications. In the absence of a controlling or contrary provision in the foregoing, the *Standard Specifications* (2022 edition) of the California Department of Transportation shall apply to this Project.

5. Independent Contractor. Contractor is and will at all times remain as to City a wholly independent contractor. Neither City nor any of its officers, employees, or agents will have control over the conduct of Contractor or any of Contractor's officers, employees, agents or subcontractors, except as expressly set forth in the Contract Documents. Contractor may not at any time or in any manner represent that it or any of its officers, employees, agents, or subcontractors are in any manner officers, employees, agents or subcontractors of City.

6. Prevailing Wages:

A. Copies of the determination of the Director of the Department of Industrial Relations of the prevailing rate of per diem wages for each craft, classification or type of worker needed to execute this Contract will be on file in, and available at, the office of the Director at 601 Carmen Drive, Camarillo, California 93010.

B. Contractor must post at the work site, or if there is no regular work site then at its principal office, for the duration of the Contract, a copy of the determination by the Director of the Department of Industrial Relations of the specified prevailing rate of per diem wages. (Labor Code Sec. 1773.2.)

C. Contractor, and any subcontractor Contractor may engage may pay not less than the specified prevailing rate of per diem wages to all workers employed in the execution of the Agreement. (Labor Code Sec. 1774.) Contractor is responsible for compliance with Labor Code Section 1776 relative to the retention and inspection of payroll records.

D. Contractor must comply with all provisions of Labor Code Section 1775. Under Section 1775, Contractor may forfeit as a penalty to City up to two hundred dollars (\$200) for each worker Contractor or any subcontractor employs in the execution of the Contract for each calendar day, or portion thereof, in which the worker is paid less than the prevailing rates. Contractor may also be liable to pay the difference between the prevailing wage rates and the amount paid to each worker for each calendar day, or portion thereof, for which each worker was paid less than the prevailing wage rate.

E. With each application for payment, Contractor shall also deliver certified payrolls to the City as set forth above in these General Conditions, and concurrently therewith (but in no event less

frequently than monthly) directly to the Labor Commissioner in the format prescribed by the Labor Commissioner.

F. If federal funds are used to pay for the Work, Contractor and any subcontractor agree to comply, as applicable, with the labor and reporting requirements of the Davis-Bacon Act (40 USC § 276a-7), the Copeland Act (40 USC § 276c and 18 USC § 874), and the Contract Work Hours and Safety Standards Act (40 USC § 327, *et seq.*).

7. Hours of Labor: Contractor acknowledges that under California Labor Code sections 1810 and following, eight hours of labor constitutes a legal day's work. Contractor will forfeit as a penalty to City the sum of twenty-five dollars (\$25) for each worker employed in the execution of this Contract by Contractor or any subcontractor for each calendar day during which such worker is required or permitted to work more than eight (8) hours in any one calendar day and forty (40) hours in any one calendar week in violation of the provisions of Labor Code Section 1810.

8. Apprentices:

A. Contractor and any subcontractor under him must comply with the requirements of Labor Code Sections 1777.5 and 1777.6. Section 1777.5, as amended, requires Contractor or any subcontractor employing tradesmen in any apprenticeable occupation to apply to the joint apprenticeship committee nearest the site of the public works project and which administers the apprenticeship program in that trade for a certificate of approval. The certificate will also fix the ratio of apprentices to journeymen that will be used in the performance of the Contract. The ratio of apprentices to journeymen in such cases must not be less than one to five except:

1. When unemployment in the area of coverage by the joint apprenticeship committee has exceeded an average of fifteen percent (15%) in the ninety (90) days prior to the request for certificate, or
2. When the number of apprentices in training in that area exceeds a ratio of one (1) to five (5), or
3. When the trade can show that it is replacing at least one-thirtieth (1/30) of its membership through apprenticeship training on an annual basis statewide or locally, or
4. When the assignment of an apprentice to any work performed under a public works contract would create a condition which would jeopardize his life or the life, safety, or property of fellow employees or the public at large, or if the specified task to which the apprentice is to be assigned is of such a nature that training cannot be provided by a journeyman, or
5. When Contractor provides evidence that he employs registered apprentices on all of his contracts on an annual average of not less than one (1) apprentice to eight (8) journeymen.

B. Contractor is required to make contributions to funds established for the administration of an apprenticeship program if he employs registered apprentices or journeymen in any apprenticeable trade on such contracts and if other contractors on the public works site are making such contributions.

C. Contractor is responsible for making training fund contributions in the amount

established in the prevailing wage rate – either to the applicable apprenticeship committee, or the California Apprenticeship Council (“CAC”).

D. Contractor is required to submit contract award information for each craft required on the Project using the appropriate form prepared by the Division of Apprenticeship Standards (“DAS”) within the California Department of Industrial Relations (“DIR”)—currently the “DAS 140 form.” A copy of the current DAS 140 form is available at <https://www.dir.ca.gov/DAS/DASForm140.pdf> . If Contractor is approved to train apprentices, Contractor must send the required information to its apprenticeship committee. If Contractor is not approved to train apprentices, Contractor must send the information to all apprenticeship committees that can supply apprentices to the site of the public works project.

E. Contractor is required to contact the applicable apprenticeship committee to request apprentices for each craft or trade on the Project using the appropriate form DIR, currently the DAS 142 form. A copy of the current DAS 142 form is available at <https://www.dir.ca.gov/DAS/DASForm142.pdf> . The form must be submitted at least three business days before apprentices are required.

F. Information relative to apprenticeship standards, wage schedules, and other requirements may be obtained from the Director of Industrial Relations, ex officio the Administrator of Apprenticeship, San Francisco, California, or from the Division of Apprenticeship Standards and its branch offices.

9. Labor Discrimination: Labor Code Section 1735 reads as follows:

A contractor must not discriminate in the employment of persons upon public works on any basis listed in subdivision (a) of Section 12940 of the Government Code, as those bases are defined in Sections 12926 and 12926.1 of the Government Code, except as otherwise provided in Section 12940 of the Government Code. Every contractor for public works who violates this section is subject to all the penalties imposed for a violation of this chapter.

10. Worker’s Compensation Insurance:

A. In accordance with the provisions of Labor Code Article 5, Chapter 1, Part 7, Division 2 (commencing with Section 1860) and Chapter 4, Part 1, Division 4 (commencing with Section 3700) , Contractor is required to secure the payment of compensation to his employees and must for that purpose obtain and keep in effect adequate Worker’s Compensation Insurance.

B. Contractor is aware of the provisions of Labor Code Section 3700 which requires every employer to be insured against liability for worker’s compensation or to undertake self-insurance in accordance with the provisions of that Code, and will comply with such provisions before commencing the performance of the work of this Agreement.

11. Indemnity and Insurance:

A. To the fullest extent permitted by law (including without limitation California Civil Code Section 2782), Contractor must indemnify, hold harmless, release and defend City, its officers, elected officials, employees, agents, volunteers, and consultants from and against any and all actions, claims, demands, damages, disability, losses, expenses including, but not limited to, attorney's fees and other defense costs and liabilities of any nature that may be asserted by any person or entity including Contractor, in whole or in part, arising out of Contractor’s activities hereunder, including the activities of other persons employed or utilized by Contractor including subcontractors hired by the Contractor in the performance of this Agreement excepting liabilities due to the sole negligence, intentional misconduct or active negligence of the City. This indemnification obligation is not limited in any way by any limitation on the amount or type of damages or compensation payable by or for Contractor under Worker’s Compensation, disability or other employee benefit acts or the terms, applicability or limitations of any insurance held or provided by Contractor

and must continue to bind the parties after termination/completion of this Agreement.

B. Contractor shall procure and maintain throughout the time for performance of the work under this Contract the insurance required by the Special Provisions. The requirement that Contractor procure and maintain insurance shall in no way be construed to limit the Contractor's duty to indemnify City as provided in the paragraph above.

C. Failure of City to monitor compliance with these requirements imposes no additional obligations on City and will in no way act as a waiver of any rights hereunder.

12. City Right of Termination and Right to Complete the Work.

A. The City may terminate the Contract when conditions encountered during the work make it impossible or impracticable to proceed, or when the City is prevented from proceeding with the Contract by act of God, by law, or by official action of a public authority. In addition, the occurrence of any of the following is a default by Contractor under this Contract:

- 1) Contractor refuses or fails to prosecute the Work or any part thereof with such diligence as will insure its completion within the time specified or any permitted extension.
- 2) Contractor fails to complete the Work on time.
- 3) Contractor is adjudged bankrupt or makes a general assignment for the benefit of creditors, or a receiver is appointed on account of Contractor's insolvency.
- 4) Contractor fails to supply enough properly skilled workers or proper materials to complete the Work in the time specified.
- 5) Contractor fails to make prompt payment to any subcontractor or for material or labor.
- 6) Contractor fails to abide by any applicable laws, ordinances or instructions of City in performing the Work.
- 7) Contractor breaches or fails to perform any obligation or duty under the Contract.

B. Upon the occurrence of a default by Contractor, City will serve a written notice of default on Contractor specifying the nature of the default and the steps needed to correct the default. Unless Contractor cures the default within 10 days after the service of such notice, or satisfactory arrangements acceptable to City for the correction or elimination of such default are made, as determined by City, City may thereafter terminate this Contract by serving written notice on Contractor. In such case, Contractor will not be entitled to receive any further payment, except for Work actually completed prior to such termination in accordance with the provisions of the Contract Documents.

C. In the event of any such termination, City will also immediately serve written notice of the termination upon Contractor's surety. The surety will have the right to take over and perform pursuant to this Contract; provided, however, that if the surety does not give City written notice of its intention to take over and perform this Contract within five (5) days after service of the notice of termination or does not commence performance within ten (10) days from the date of such notice, City may take over the Work and prosecute the same to completion by contract or by any other method it may deem advisable for the account and at the expense of Contractor. Contractor and the surety will be liable to City for any and all excess costs or other damages incurred by City in completing the Work.

D. If City takes over the Work as provided in this Section, City may, without liability for so doing, take possession of, and utilize in completing the Work, such materials, appliances, plant, and

other property belonging to Contractor as may be on the site of the Work and necessary for the completion of the Work.

13. Substitution of Securities for Withheld Amounts:

A. Pursuant to California Public Contracts Code Section 22300, securities may be substituted for any moneys withheld by a public agency to ensure performance under a contract. At the request and sole expense of the Contractor, securities equivalent to the amount withheld must be deposited with the public agency, or with a state or federally chartered bank as the escrow agent, who must pay such moneys to the Contractor upon satisfactory completion of the contract.

B. Securities eligible for substitution under this section must include those listed in the Public Contracts Code Section 22300 or bank or savings and loan certificates of deposit. Contractor must be the beneficial owner of any securities substituted for moneys withheld and must receive any interest thereon.

C. Alternatively, Contractor may request and the City shall make payment of retentions earned directly to the escrow agent at the expense of the Contractor. At Contractor's expense, the Contractor may direct the investment of the payments into securities and the Contractor shall receive the interest earned on the investments upon the same terms provided for in Section 22300 for securities deposited by the Contractor. Upon satisfactory completion of the Agreement, Contractor shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the City, pursuant to the terms of this section.

D. Any escrow agreement entered into pursuant to this section must contain as a minimum the following provisions:

- 1) The amount of securities to be deposited;
- 2) The terms and conditions of conversion to cash in case of the default of the Contractor; and
- 3) The termination of the escrow upon completion of the contract.

14. General Provisions

A. Authority to Execute. Each party represents and warrants that all necessary action has been taken by such party to authorize the undersigned to execute this Agreement and to bind it to the performance of its obligations.

B. Assignment. Contractor may not assign this Agreement without the prior written consent of City, which consent may be withheld in City's sole discretion since the experience and qualifications of Contractor were material considerations for this Agreement.

C. Binding Effect. This Agreement is binding upon the heirs, executors, administrators, successors and permitted assigns of the parties.

D. Integrated Contract. This Agreement, including the Contract Documents, is the entire, complete, final and exclusive expression of the parties with respect to the Work to be performed under this Agreement and supersedes all other agreements or understandings, whether oral or written, between Contractor and City prior to the execution of this Agreement.

E. Modification of Contract. No amendment to or modification of this Agreement will be valid unless made in writing and approved by Contractor and by the City Council, City Manager or Assistant City Manager, as applicable. The parties agree that this requirement for written modifications cannot be waived and that any attempted waiver will be void.

F. Counterparts, Facsimile or other Electronic Signatures. This Agreement may be executed in several counterparts, each of which will be deemed an original, and all of which, when taken together, constitute one and the same instrument. Amendments to this Agreement will be considered executed when the signature of a party is delivered by facsimile or other electronic transmission. Such facsimile or other electronic signature will have the same effect as an original signature.

G. Waiver. Waiver by any party of any term, condition, or covenant of this Agreement will not constitute a waiver of any other term, condition, or covenant. Waiver by any party of any breach of the provisions of this Agreement will not constitute a waiver of any other provision, or a waiver of any subsequent breach or violation of any provision of this Agreement. Acceptance by City of any Work performed by Contractor will not constitute a waiver of any of the provisions of this Agreement.

H. Interpretation. This Agreement will be interpreted, construed and governed according to the laws of the State of California. Each party has had the opportunity to review this Contract with legal counsel. The Agreement will be construed simply, as a whole, and in accordance with its fair meaning. It will not be interpreted strictly for or against either party.

I. Severability. If any term, condition or covenant of this Agreement is declared or determined by any court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this Agreement will not be affected and the Agreement will be read and construed without the invalid, void or unenforceable provision.

J. Venue. In the event of litigation between the parties, venue in state trial courts will be in the County of Sonoma. In the event of litigation in a U.S. District Court, venue will be in the Northern District of California.

IN WITNESS WHEREOF, the City of Rohnert Park has caused these presents to be executed by its officers, thereunto duly authorized, and Contractor has subscribed same, all on the day and year first above written.

CITY OF ROHNERT PARK

<<CONTRACTOR>>

Marcela Piedra, City Manager Date
Per Purchasing Policy as approved by Resolution 2022-052

Name/Title Date

ATTEST:

APPROVED AS TO FORM:

City Clerk

City Attorney

INSURANCE

Bidder's attention is directed to the following insurance forms and to Section 2.03 of the Special Provisions, located on Pages 2-1 through 2-6 in the Special Provisions section. It is highly recommended that bidders confer with their respective insurance carriers or brokers to determine in advance of bid submission the availability of insurance certificates and endorsements as prescribed and provided herein. Failure to comply strictly with the insurance requirements may result in forfeiture of the bid security and withdrawal of the bid proposal.

CERTIFICATE OF INSURANCE

CITY OF ROHNERT PARK (the "City")

ISSUE DATE MM/DD/YY)

PRODUCER	THIS CERTIFICATE OF INSURANCE IS NOT AN INSURANCE POLICY AND DOES NOT AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW.																		
INSURED	<table style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 60%;"></td> <td style="text-align: center;">COMPANIES</td> <td style="text-align: center;">BEST'S RATING</td> </tr> <tr> <td>COMPANY LETTER A _____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>COMPANY LETTER B _____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>COMPANY LETTER C _____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>COMPANY LETTER D _____</td> <td>_____</td> <td>_____</td> </tr> <tr> <td>COMPANY LETTER E _____</td> <td>_____</td> <td>_____</td> </tr> </table>		COMPANIES	BEST'S RATING	COMPANY LETTER A _____	_____	_____	COMPANY LETTER B _____	_____	_____	COMPANY LETTER C _____	_____	_____	COMPANY LETTER D _____	_____	_____	COMPANY LETTER E _____	_____	_____
	COMPANIES	BEST'S RATING																	
COMPANY LETTER A _____	_____	_____																	
COMPANY LETTER B _____	_____	_____																	
COMPANY LETTER C _____	_____	_____																	
COMPANY LETTER D _____	_____	_____																	
COMPANY LETTER E _____	_____	_____																	

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 TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

CO LTR	TYPE OF INSURANCE	POLICY NUMBER	POLICY EFFECTIVE DATE (MM/DD/YY)	POLICY EXPIRATION DATE (MM/DD/YY)	ALL LIMITS IN THOUSANDS	
	GENERAL LIABILITY <input type="checkbox"/> COMMERCIAL GENERAL LIABILITY <input type="checkbox"/> CLAIMS MADE <input type="checkbox"/> OCCUR. <input type="checkbox"/> OWNER'S & CONTRACTOR'S PROT. <input type="checkbox"/> OTHER _____				GENERAL AGGREGATE	\$
					PRODUCTS-COMP/OPS AGGREGATE	\$
					PERSONAL & ADVERTISING INJURY	\$
					EACH OCCURRENCE	\$
					FIRE DAMAGE (Any one fire)	\$
					MEDICAL EXPENSE (Any one person)	\$
	AUTOMOBILE LIABILITY <input type="checkbox"/> ANY AUTO <input type="checkbox"/> ALL OWNED AUTOS <input type="checkbox"/> SCHEDULED AUTOS <input type="checkbox"/> HIRED AUTOS <input type="checkbox"/> NON-OWNED AUTOS <input type="checkbox"/> GARAGE LIABILITY				COMBINED SINGLE LIMIT	\$
					BODILY INJURY (Per person)	\$
					BODILY INJURY (Per accident)	\$
					PROPERTY DAMAGE	\$
	EXCESS LIABILITY <input type="checkbox"/> UMBRELLA <input type="checkbox"/> OTHER THAN UMBRELLA FORM				EACH OCCURRENCE	\$
					AGGREGATE	\$
	<input type="checkbox"/> WORKER'S COMPENSATION AND EMPLOYERS' LIABILITY				STATUTORY	
					EACH ACCIDENT	\$
					DISEASE-POLICY LIMIT	\$
					DISEASE-EACH EMPLOYEE	\$
	PROPERTY INSURANCE <input type="checkbox"/> COURSE OF CONSTRUCTION				AMOUNT OF INSURANCE	\$

DESCRIPTION OF OPERATIONS/LOCATIONS/VEHICLES/RESTRICTIONS/SPECIAL ITEMS

- THE FOLLOWING PROVISIONS APPLY:**
1. None of the above-described policies will be canceled until after 30 days' written notice has been given to the City at the address indicated below.
 2. The City of Rohnert Park, its officers, elected officials, employees, agents and volunteers are added as insureds on all liability insurance policies listed above.
 3. It is agreed that any insurance or self-insurance maintained by the City will apply in excess of and not contribute with, the insurance described above.
 4. The City is named a loss payee on the property insurance policies described above, if any.
 5. All rights of subrogation under the property insurance policy listed above have been waived against the City.
 6. The workers' compensation insurer named above, if any, agrees to waive all rights to subrogation against the City for injuries to employees of the insured resulting from work for the City or use of the City's premises or facilities.
 7. Attached hereto are copies of the applicable policy pages or endorsements regarding notice of cancellation, additional insured and waiver of subrogation matters.

CERTIFICATE HOLDER/ADDITIONAL INSURED CITY OF ROHNERT PARK 130 AVRAM AVENUE ROHNERT PARK, CA 94928	AUTHORIZED REPRESENTATIVE SIGNATURE _____ TITLE _____ PHONE NO. _____
---	---

THIS ENDORSEMENT CHANGES THE POLICY, PLEASE READ IT CAREFULLY

ADDITIONAL INSURED – OWNERS, LESSEES OR CONTRACTORS

This endorsement modifies insurance provided under the following:

COMMERCIAL GENERAL LIABILITY COVERAGE PART.

SCHEDULE

Name of Organization:

The City of Rohnert Park, its officers, elected officials, employees, agents and volunteers are named as additional insured.

(If no entry appears above, the information required to complete this endorsement will be shown in the Declarations as applicable to this endorsement).

WHO IS INSURED (Section II) is amended to include as an insured the person or organization shown in the Schedule but only with respect to liability arising out of "your work" performed for that insured.

Modifications to ISO for CG 20 10 11 85

1. The insured scheduled above includes the insured's elected or appointed officers, officials, employees, agents and volunteers.
2. This insurance must be primary as respects the insured shown in the schedule above, or if excess, must stand in an unbroken chain of coverage excess of the Named Insured's scheduled underlying primary coverage. In either event, any other insurance maintained by the Insured scheduled above must be in excess of this insurance and must not be called upon to contribute with it.
3. The insurance afforded by this policy must not be canceled except after thirty (30) days prior written notice by certified mail, return receipt requested, has been given to the Entity.
4. Coverage must not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insurance would be invalid under Subdivision (b) of Section 2782 of the Civil Code.

Signature-Authorized Representative

Address

CG 20 10 11 85 Insurance Services Office, Inc. Form (Modified)

SUBMIT IN DUPLICATE

**AUTOMOBILE LIABILITY SPECIAL ENDORSEMENT
FOR CITY OF ROHNERT PARK (the "City")**

ENDORSEMENT NO. _____

ISSUE DATE (MM/DD/YY) _____

PRODUCER

POLICY INFORMATION:

Insurance Company: _____

Policy No.: _____

Policy Period: (from) _____ (to) _____

LOSS ADJUSTMENT EXPENSE Included in Limits
 In Addition to Limits

Telephone _____

Deductible Self-Insured Retention (check which) of \$ _____

NAMED INSURED

APPLICABILITY. This insurance pertains to the operation and/or tenancy of the named insured under all written agreements and permits in force with the City unless checked here in which case only the following specific agreements and permits with the City are covered:
CITY AGREEMENTS/PERMITS

TYPE OF INSURANCE

OTHER PROVISIONS

COMMERCIAL AUTO POLICY

BUSINESS AUTO POLICY

OTHER _____

LIMIT OF LIABILITY

CLAIMS: Underwriter's representative for claims pursuant to this insurance.

\$ _____ per accident, for bodily injury and property damage.

Name: _____

Address: _____

Telephone: () _____

In consideration of the premium charged and notwithstanding an inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, it is agreed as follows:

1. **INSURED.** The City of Rohnert Park, its officers, elected officials, employees, agents and volunteers are included as insureds with regard to damages and defense of claims arising from: the ownership, operation, maintenance, use, loading or unloading of any auto owned, leased, hired or borrowed by the Named Insured, or for which the Named Insured is responsible.
2. **CONTRIBUTION NOT REQUIRED.** As respects work performed by the Named Insured for or on behalf of the City, the insurance afforded by this policy must: (a) be primary insurance as respects the City, its officers, officials, employees, agents or volunteers; or (b) stand in an unbroken chain of coverage excess of the Named Insured's primary coverage. Any insurance or self-insurance maintained by the City, its officers, officials, employees and volunteers must be in excess of the Named Insured's insurance and not contribute with it.
3. **CANCELLATION NOTICE.** With respect to the interests of the City, this insurance must not be cancelled, except after thirty (30) days prior written notice by receipted delivery has been given to the City.
4. **SCOPE OF COVERAGE.** This policy affords coverage at least as broad as:
 - (1) If primary, Insurance Services Office form number CA0001 (Ed. 1/87), Code 1 ("any auto"); or
 - (2) If excess, affords coverage which is at least as broad as the primary insurance forms referenced in the preceding section (1).

Except as stated above nothing herein must be held to waive, alter or extend any of the limits, conditions, agreements or exclusions of the policy to which this endorsement is attached.

ENDORSEMENT HOLDER

CITY

**CITY OF ROHNERT PARK
130 AVRAM AVENUE
ROHNERT PARK, CA 94928**

AUTHORIZED REPRESENTATIVE Broker/Agent Underwriter _____

I _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company and by my signature hereon do so bind this company to this endorsement.

Signature _____
(original signature required)

Telephone: () _____ Date signed: _____

REV. 11/08

SUBMIT IN DUPLICATE		
WORKERS' COMPENSATION AND EMPLOYER'S LIABILITY SPECIAL ENDORSEMENT FOR <u>CITY OF ROHNERT PARK</u> (the "City")	ENDORSEMENT NO.	ISSUE DATE (MM/DD/YY)
PRODUCER Telephone _____	POLICY INFORMATION: Insurance Company: _____ Policy No.: _____ Policy Period: (from) _____ (to) _____	
NAMED INSURED	OTHER PROVISIONS	
CLAIMS: Underwriter's representative for claims pursuant to this insurance. Name: _____ Address: _____ Telephone: (____) _____	EMPLOYERS LIABILITY LIMITS \$ _____ (Each Accident) \$ _____ (Disease - Policy Limit) \$ _____ (Disease - Each Employee)	
<p>In consideration of the premium charged and notwithstanding an inconsistent statement in the policy to which this endorsement is attached or any endorsement now or hereafter attached thereto, it is agreed as follows:</p> <ol style="list-style-type: none"> 1. CANCELLATION NOTICE. This insurance must not be cancelled, except after thirty (30) days prior written notice by receipted delivery has been given to the City. 2. WAIVER OF SUBROGATION. This insurance Company agrees to waive all rights of subrogation against the City, its officers, officials, employees, agents and volunteers for losses paid under the terms of this policy which arise from the work performed by the Named Insured for the City. <p>Except as stated above nothing herein must be held to waive, alter or extend any of the limits, conditions, agreements or exclusions of the policy to which this endorsement is attached.</p>		
ENDORSEMENT HOLDER		
<p>CITY</p> <p style="text-align: center;">CITY OF ROHNERT PARK 130 AVRAM AVENUE ROHNERT PARK, CA 94928</p>	<p>AUTHORIZED <input type="checkbox"/> Broker/Agent <input type="checkbox"/> Underwriter <input type="checkbox"/> _____ REPRESENTATIVE</p> <p>I _____ (print/type name), warrant that I have authority to bind the above-mentioned insurance company and by my signature hereon do so bind this company to this endorsement.</p> <p>Signature _____ (original signature required)</p> <p>Telephone: () _____ Date signed: _____</p>	

REV. 11/08

PART 2 – SPECIAL PROVISIONS

SPECIAL PROVISIONS

2.01 PROJECT OWNER

The Project Owner is the City of Rohnert Park, California. Wherever in these or the Standard Specifications the word “Owner” appears, it means the City of Rohnert Park.

2.02 LOCATION AND DESCRIPTION OF WORK

Location of work is within the City of Rohnert Park, 1170 Golf Course Drive.

The work generally consists of, but not limited to, replacement of the roofs on the restroom and concession buildings, and appurtenances as shown on the plans and specified in these Special Provisions.

2.03 INSURANCE REQUIREMENTS FOR CONTRACTORS

A. The following parties or entities must be listed as additional insured by endorsement:

1. The City of Rohnert Park, its officers, elected officials, employees, agents and volunteers

B. BIDDER’S ATTENTION IS DIRECTED TO THE INSURANCE REQUIREMENTS BELOW. IT IS HIGHLY RECOMMENDED THAT BIDDERS CONFER WITH THEIR RESPECTIVE INSURANCE CARRIERS OR BROKERS TO DETERMINE IN ADVANCE OF BID SUBMISSION THE AVAILABILITY OF INSURANCE CERTIFICATES AND ENDORSEMENTS AS PRESCRIBED AND PROVIDED HEREIN. IF AN APPARENT LOW BIDDER FAILS TO COMPLY STRICTLY WITH THE INSURANCE REQUIREMENTS, THAT BIDDER MAY BE DISQUALIFIED FROM AWARD OF THE CONTRACT.

C. Contractor must procure and maintain for the duration of the contract insurance against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by Contractor, Contractor’s agents, representatives, employees or subcontractors. The coverage of the above-named parties as additional insureds shall be “primary and non-contributory” and must state that it will not seek contribution from the City’s insurance or self-insurance. The cost of Contractor’s insurance must be included in Contractor’s bid. The Notice to Proceed with the Work will not be issued, and Contractor must not commence work, until such insurance has been approved by the City. Such insurance must remain in full force and effect at all times during the prosecution of the Work and until the final completion and acceptance thereof. In addition, the Commercial General Liability Insurance must be maintained for a minimum of three (3) years after final completion and acceptance of the Work. It is Contractor’s responsibility to ensure that proof of insurance is sent to the City during this time. The Notice to Proceed does not relieve Contractor of the duty to obtain such insurance as required herein.

D. Minimum Scope of Insurance

Coverage must be at least as broad as:

1. Insurance Services Office Commercial General Liability coverage (Occurrence Form CG 0001).

2. Insurance Services Office form number CA 0001 (Ed. 1/87) covering Automobile Liability, Code 1 "any auto" or the exact equivalent. If Contractor owns no vehicles, this requirement may be satisfied by a non-owned auto endorsement to the general liability policy described above. If Contractor or Contractor's employee(s) will use personal autos in any way on this Project, Contractor must provide evidence of personal auto liability coverage for each such person.

3. Workers' Compensation and Employers Liability: Workers' Compensation on a state-approved policy form providing statutory benefits as required by law with employer's liability insurance, with minimum limits of One Million Dollars (\$1,000,000) per occurrence.

Coverage must not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Subsection (b) of Section 2782 of the Civil Code.

E. Minimum Limits of Insurance

Contractor must maintain limits no less than:

1. Commercial General Liability: \$2,000,000 per occurrence for bodily injury, personal injury and property damage and \$2,000,000 general aggregate. It is permissible to use excess/umbrella coverage to meet limit requirements provided the umbrella policies are appropriately endorsed and meet all other requirements. Additionally, a letter clearly identifying the primary policy or policies to which the excess umbrella coverage applies must be submitted attesting to the following: *"Umbrella or excess liability policies must provide coverage at least as broad as specified for underlying coverages and covering those insured in the underlying policies. Coverage must be "pay on behalf", with defense costs payable in addition to policy limits. There must be no cross liability exclusion of claims or suits by one insured against another, and such coverage must also apply on a primary and non-contributory basis for the benefit of the City before the City's own insurance or self-insurance shall be called upon to protect it as a named insured."*

2. Automobile Liability: \$2,000,000 combined single limit per accident for bodily injury and property damage.

3. Workers' Compensation and Employers Liability: Workers' Compensation providing statutory benefits as required by the Labor Code with employers' liability insurance, with minimum limits of \$1,000,000 per accident or disease.

F. Contractor agrees that any available insurance proceeds broader than or in excess of these specified minimum coverage requirements or the limits in subsection (A) shall be available to the additional insureds named above. Furthermore, the requirements for coverage and limits shall be (1) the minimum coverage and limits specified herein; or (2) such broader coverage and maximum limits of coverage of any insurance policy or proceeds available to the named insured for the work performed; whichever is greater.

G. Deductibles and Self-Insured Retentions

Any deductibles or self-insured retentions must be declared to and approved by the City. At the option of the City, either: the insurer must reduce or eliminate such deductibles or self-insured retentions as respects the City, its officers, elected officials, employees, agents, and volunteers; or the Contractor must procure a bond guaranteeing payment of losses and related investigations, claim administration and defense expenses.

H. Other Insurance Provisions

The policies are to contain, or be endorsed to contain, the following provisions:

1. General Liability and Automobile Liability Coverages

a. The City, its officers, elected officials, employees, agents and volunteers are to be covered as insureds as respects: liability arising out of activities performed by or on behalf of the Contractor, including the insured's general supervision of the Contractor; products and completed operations of the Contractor, premises owned, occupied or used by the Contractor, or automobiles owned, leased, hired or borrowed by the Contractor. The coverage must contain no special limitations on the scope of protection afforded to the City, its officers, elected officials, employees, agents or volunteers.

b. The Contractor's insurance coverage must be primary insurance as respects the City, its officers, elected officials, employees, agents and volunteers. Any insurance or self-insurance maintained by the City, its officers, elected officials, employees, agents or volunteers must be in excess of Contractor's insurance and must not contribute with it.

c. Any failure to comply with reporting provisions of the policies must not affect coverage provided to the City, its officers, elected officials, employees, agents or volunteers.

d. The Contractor's insurance must apply separately to each insured against whom claim is made or suit is brought, except with respect to the limits of the insurer's liability.

2. Workers' Compensation and Employers Liability Coverage

The insurer must agree to waive all rights of subrogation against the City, its officers, elected officials, employees, agents and volunteers for losses arising from work performed by Contractor for the City.

3. All Coverages

a. Each insurance policy required by this clause must be endorsed to state that coverage must not be suspended, voided, cancelled by either party, reduced in coverage or in limits except after thirty (30) days' prior written notice by certified mail, return receipt requested, has been given to the City.

b. Coverage must not extend to any indemnity coverage for the active negligence of the additional insured in any case where an agreement to indemnify the additional insured would be invalid under Civil Code Section 2782(b) .

4. Course of Construction policies must contain the following provisions:

a. The City must be named as loss payee.

b. The insurer must waive all rights of subrogation against the City.

5. Pollution and/or Asbestos Pollution Liability: \$1,000,000 each occurrence/\$1,000,000 policy aggregate. If coverages are written on a Claims Made form:

a. The "Retro Date" must be shown and must be before the date of the contract or the beginning of contract work.

b. Insurance must be maintained and evidence of insurance must be provided for at least five (5) years after completion of contract work.

c. If coverage is canceled or non-renewed, and not replaced with another claims made policy form with a "Retro Date" prior to the contract effective date, Contractor must purchase "extended reporting" coverage for a minimum of five (5) years after completion of contract work.

d. A copy of the claims reporting requirements must be submitted to the City for review.

I. Acceptability of Insurers

Insurance is to be placed with insurers with a Best's rating of no less than A:VII or as approved by the City.

J. Verification of Coverage

Contractor must furnish the City with certificates of insurance and with original endorsements affecting coverage required by this clause. The certificates and endorsements for each insurance policy are to be signed by a person authorized by that insurer to bind coverage on its behalf. The certificates and endorsements are to be on forms provided by the City. Where by statute, the City's workers' compensation-related forms cannot be used, equivalent forms approved by the Insurance Commissioner are to be substituted. All certificates and endorsements are to be received and approved by the City before work commences. The City reserves the right to require complete, certified copies of all required insurance policies, at any time.

K. Subcontractors

Contractor must include all subcontractors as insureds under its policies or must furnish separate certificates and endorsements for each subcontractor. All coverages for subcontractors must be subject to all of the requirements stated herein.

2.04 BONDS

A. In accordance with Section 3.4 of the Standard Specifications, Contractor must provide the following bonds: Payment Bond equal to one hundred percent (100%) of the Contract Bid Price, and Performance Bond equal to one hundred percent (100%) of the Contract Bid Price on City's forms. Both bonds must, by their term, remain in full force and effect for a period of one (1) year after the completion and acceptance of said Work to guarantee the replacement or making acceptable of any defective materials or faulty workmanship.

B. Contractor may elect to post a maintenance bond equal to one hundred percent (100%) of the Contract Bid Price, which will run for one (1) year after completion and acceptance of said Work to guarantee replacing or making acceptable any defective materials or faulty workmanship prior to the acceptance of said Work.

2.05 LIQUIDATED DAMAGES

In accordance with Section 8.6 of the Standard specifications, liquidated damages shall be twenty-eight hundred dollars (\$2,800) per calendar day.

2.06 WITHDRAWALS OF PROPOSALS

A. City reserves the right to reject any and all bids and to waive any informality or irregularity in the bids received.

B. No bidder may withdraw his/her bid for a period of ninety (90) days from the opening thereof.

2.07 DRAWINGS AND SPECIFICATIONS

A. The drawings showing location and character of work are entitled Re-roofing at Honeybee Pool Complex numbered A0.01 through A8.01 inclusive, and are included as a part of these specifications. The City of Rohnert Park 2010 Manual of Standards, Details and Specifications are the adopted Standard Plans for the City of Rohnert Park and are included as a part of these specifications.

B. Also included by reference as part of these specifications are the Standard Specifications of the City of Rohnert Park, Sections 1-10 inclusive, hereinafter referred to as "General Provisions."

C. In addition, the technical provisions of the Standard Plans and Standard Specifications, State of California, Department of Transportation, Business and Transportation Agency, most current edition, and to revisions thereof are included by reference as a part of these specifications insofar as they refer to materials and methods of work where applicable. Wherever in the SPECIAL PROVISIONS reference is made to "Caltrans Standard Specifications" or "Caltrans Standard Plans," it refers to these specifications or plans.

2.08 COOPERATION AND COLLATERAL WORKS

A. Contractor must conform to the provisions of Section 7.26, "Cooperation and Collateral Works," of the Standard Specifications.

B. Contractor must ascertain the nature and extent of any simultaneous collateral work and must coordinate their operations and cooperate to minimize interference.

2.09 PROTECTION AND RESTORATION OF EXISTING IMPROVEMENTS

A. Contractor must conform to the provisions of Section 7.15, "Preservation of Property," of the Standard Specifications.

B. Without additional compensation, Contractor may remove and replace, in a condition as good as or better than original, such small miscellaneous structures as fences and sign posts, that interfere with the Contractor's operations.

C. All costs to Contractor for protecting, removing, modifying, relocating and restoring existing improvements must be considered as included in the Contract prices paid for the various items of work, and no additional allowance will be made therefor.

2.10 PERMITS AND LICENSES

A. Contractor will not be required to obtain a City permit for this work.

B. Contractor must have a valid California contractor's Class C-39 Roofing Contractor license. Contractor and all subcontractors will be required to obtain a City Business license.

2.11 APPROVED DEBRIS HAULERS

A. There are three (3) approved debris haulers within the City and their contact information is listed below. Contractor shall contract with one of the three (3) debris haulers for service on the project. Payment for debris hauling shall be included within the Contractor's bid and no additional payment will be made for using one of the three (3) approved debris haulers.

Industrial Carting (Global Materials Recovery Services C&D Recycling Facility) (707) 585-0511	Recology Sonoma Marin 800-243-0291 https://www.recology.com/recology-sonoma-marin/	Pacific Sanitation 707-838-2597 http://www.pacificsanitation.com/
--	--	---

B. When Contractor utilizes a staging area or storage yard that is fenced and screened, final cleanup of the staging area and storage yard will be completed before the fence and screen are removed, except for spot cleanup or trimming that may be required in areas directly under or adjacent to the fence and screen.

C. Unless expressly waived by the City Engineer, when Contractor utilizes an area for storage of material or staging its activities, the area will be fenced and locked and all fencing will be installed with protective screening (i.e., green screen) to minimize the visual impact of the storage and staging area.

2.12 FIELD REVIEW PRIOR TO BIDDING

The bidder must examine carefully the site of the work contemplated and the proposal, plans, specifications, and the contract forms therefor. It will be assumed that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality and quantities of work to be performed and materials to be furnished, and as to the requirements of these specifications, the Special Provisions, and the contract.

2.13 TESTING

The City will only pay for passing compaction tests meeting the requirements of these specifications. All failing tests will be charged to Contractor and the costs of such failing tests will be deducted from the Contract. In addition, the decision as to when and from what areas tests are to be made will be at the judgment of the Engineer only.

2.14 WORKING HOURS AND RECORD DRAWINGS

A. Contractor working hours shall be between 8:00 AM and 6:00 PM unless approved by the City Engineer at least seventy-two (72) hours in advance. Working days shall be Monday through Friday, excluding weekends and holidays.

B. Contractor shall provide record drawings at the end of the Project, and final payment shall not be issued until completed and approved by the Project manager. The record drawing compilation shall be considered part of the bid amount.

2.15 PROJECT NOTIFICATION AND IDENTIFICATION SIGN

A. Contractor shall post notification flyers at each residence or commercial establishment within the work limit two (2) weeks prior to commencement of work and three (3)

days prior to commencement of work. Cost for notification shall be considered as part of mobilization, and no additional payment shall be made.

PART 3 – STANDARD SPECIFICATIONS

**PART 3
CONDITIONS OF THE CONTRACT**

**SECTION 1
DEFINITIONS AND TERMS**

Whenever in these specifications, or in any documents or instruments where these specifications govern, the following terms, or acronyms in place of them, are used, the intent and meaning must be interpreted as follows (except as the context requires a different meaning):

Abbreviations

AAI	American Asphalt Institute
AASHTO	American Association of State Highway and Transportation Officials
ACI	American Concrete Institute
AISC	American Institute Steel Construction
AISI	American Iron and Steel Institute
API-ASME	American Pressure Institute - American Society of Mechanical Engineers
AREA	American Railway Engineering Association
ASA	American Standards Association
ASTM	American Society for Testing Materials
AWPA	American Wood Preservers Association
AWA	American Welding Society
AWWA	American Water Works Association
CRA	California Redwood Association
DFPA	Douglas Fir Plywood Association
NEMA	National Electrical Manufacturers' Association
WCLA	West Coast Lumbermen's Association

Acceptance

The formal written acceptance by the City of an entire Contract which has been completed in all respects in accordance with the plans and specifications and any modifications thereof previously approved.

Bidder

Any individual, firm or corporation submitting a proposal for the Work contemplated, acting directly or through a duly authorized representative.

City

City of Rohnert Park

City Engineer

The City Engineer of the City of Rohnert Park.

Contract or Contract Documents

The Contract or agreement to be entered into by the successful bidder for the performance of the

work must consist of the following documents, each of which is on file in the office of the City Clerk and all of which are incorporated in the Contract and made a part thereof by reference thereto: Contract, Invitation for Proposals, Instructions and Information to Bidders, Accepted Proposal, Performance Bond, Payment Bond, Special Provisions, Standard Specifications, Design and Construction Standards, Plans, Profiles and Detailed Drawings.

Contractor

The word “Contractor” means the person, persons, partnership or corporation entering into the Contract for the performance of the work required and the legal representative of said party of the agent appointed to act for said party in the performance of the Work.

Contract Prices

Either the unit prices or lump sum amounts to be named in the Contract, or the total of all payments under the Contract at the unit prices or lump sum amounts, as the case may be. This definition is for convenience and reference only and must not be construed to alter the fact that the Contract is an entire Contract for the performance of all work depicted on the plans and as described herein.

Directed

Whenever in these specifications the words “directed,” “required,” “permitted,” “ordered,” “instructed,” “designated,” “considered necessary,” “prescribed,” or words of like import are used, it must be understood that the directions, requirements, permission, order, instruction, designation, or prescription, etc. of the City Engineer are intended; and, similarly, the words “approved,” “acceptable,” “satisfactory,” or words of like import, mean approved by, or acceptable or satisfactory to the City Engineer, unless otherwise stated.

Engineer

Engineer means properly authorized engineers, inspectors, and superintendents acting severally within their scope of the particular duties entrusted to them by the City Engineer.

Federal Agencies

Whenever in these specifications reference is made to any federal agency or officer, such references are deemed made to any agency or officer succeeding in accordance with law to the powers, duties, jurisdictions and authority of the agency or officer mentioned.

Inspector

The word “Inspector” means the authorized individual or firm acting within the jurisdiction entrusted to it by the City Engineer.

Plans

The word “Plans” means collectively all of the drawings or plans referenced by the Project specifications and made a part thereof, and also such supplemental drawings or plans as the City Engineer must issue from time to time to elucidate drawings or plans attached to these specifications, or for showing details which are not shown thereon, or for the purpose of showing changes in the work, as authorized in later paragraphs describing changes and Extra Work.

Specifications

The directions, provisions, and requirements contained herein as supplemented by such special

provisions or special specifications as may be necessary, pertaining to the method and manner of performing the work or the quantities and qualities of materials to be furnished under the Contract. The special provisions or special specifications are specified clauses setting forth conditions or requirements peculiar to the Project under consideration and covering work or materials involved in the proposal and estimate but not satisfactorily covered by these Standard Specifications.

State

State of California.

Supervision

The word “supervision” where used in these specifications to indicate supervision by the City Engineer means the performance of obligations and the exercise of rights specifically imposed and granted upon and to the City in becoming a party to the Contract, of which the text of these specifications forms a part. Excepting as specifically stated herein, supervision by the City is not be construed to mean active and direct superintendence of the details of the Work.

Surety

The word “surety” or “sureties” means the bondsmen or party or parties who may guarantee the fulfillment of the Contract by bond, and whose signatures are attached to said bond.

SECTION 2 PROPOSAL REQUIREMENTS AND CONDITIONS

2.1 INTENT

It is the intent of these specifications that the provisions of all sections must apply unless otherwise specified in the Special Provisions, in which case the provisions contained therein must have precedence over those specified in the Standard Specifications. It is also the intent where reference is made to specifications or other organizations for portions of the Work, that such reference applies only to construction methods and materials used in said Work.

SECTION 3
AWARD AND EXECUTION OF CONTRACT

3.1 AWARD OF CONTRACT

A. The City reserves the right to accept or reject any or all proposals and waive technical defects as the City's best interests may require. Award of the Contract, if it be awarded, will be to the lowest responsive, responsible bidder whose proposal complies with all the requirements prescribed. The award, if made, will be awarded as soon as practicable after the opening of the proposals but not before the time for bid protests set forth below. Proposals in which the prices are obviously unbalanced will be rejected.

B. The proposals will be compared on a basis of the sum of the totals of the items on the schedule as calculated from the given estimated quantities and the unit prices or lump sums of the amount submitted. The entire work will be awarded to one bidder, unless otherwise specified in the Special Provisions.

3.2 BID PROTESTS

A. Any bid protest ("Bid Protest") must be filed in writing with the City Clerk, with a copy to the bidder whose bid is being protested and served by email or facsimile transmission within seven (7) calendar days of the City's issuance of the Notice to Intent to Award for Construction Work. **Proof of service of the Bid Protest must be submitted to the City Clerk within one business day of the filing of the Bid Protest, and any protest without a timely submitted proof of service may be rejected.** City will use reasonable efforts to deliver by email or facsimile a copy of the Notice of Intent to Award to all bidders who submitted bids no later than the business day after issuance, although any delay or failure to do so will not extend the bid protest deadline described above.

B. The Bid Protest must state all grounds upon which the protest is based and include all facts and documents in support of each protest ground.

C. Any bidder whose bid is subject to a protest may submit to the City Clerk a written response ("Response") to the Bid Protest, with a copy to the protesting bidder, and served by email or facsimile transmission within (five (5) calendar days of the service of the Bid Protest.

D. The City Clerk shall promptly submit the Bid Protest, and any Response, to the City Manager, Assistant City Manager or his/her designee for decision ("Decision"). The Decision on the Bid Protest shall be in writing and shall be served upon the protesting bidder, and the bidder whose bid is being protested, via email or facsimile transmission within five (5) calendar days of his or her receipt of Bid Protest and any Response. If the City Manager, Assistant City Manager or his/her designee has not issued a written Decision on the Bid Protest within said five (5) calendar day period, then the Bid Protest shall be deemed denied. The Decision, by written Decision or deemed denial, shall be final.

E. Failure to comply with these Bid Protest Procedures shall be deemed to be a waiver of the right to protest a bid.

3.3 RETURN OF PROPOSAL GUARANTEES

Within ten (10) days after award of Contract, the City will upon demand return the proposal

guarantees accompanying the proposals of all bidders, except those of the three (3) lowest responsible bidders as determined by the City. Proposal guarantees of the three (3) lowest responsible bidders will be held until the Contract has been finally executed, after which they will be returned to the respective bidders whose proposals they accompany.

3.4 BONDS

A. Prior to the City's execution of the Contract, the successful bidder must file good and sufficient bonds to be approved by the City conditioned upon the complete performance of the Contract and upon the payment of claims for labor and materials in connection therewith. The Contractor must pay all premiums and costs thereof and incidental thereto. Such bonds must not be subject to cancellation.

B. The following minimum thresholds require Payment and Performance bonds for projects over twenty-five thousand dollars (\$25,000):

1. **Payment Bond:** Per Civil Code Section 9550, a payment bond is required for a public works contract involving an expenditure in excess of twenty-five thousand dollars (\$25,000). Civil Code Section 9554, requires that the payment bond be in an amount not less than one hundred percent (100%) of the total amount payable pursuant to the public works contract and is subject to the provisions of that chapter as specified in the Special Provisions.

2. **Performance Bond:** The performance bond shall be in an amount specified in the Special Provisions and must be conditioned so as to ensure the complete performance of the Contract without exception.

C. Should City deem any surety or sureties unsatisfactory at any time, notice will be given to Contractor to that effect, and they must forthwith substitute a new surety or sureties satisfactory to the City. No further payment will be deemed due or will be made under this Contract until the new surety is qualified and accepted by the City.

D. Any alterations in the Work to be done, or increase or decrease of the materials to be furnished, which may be made pursuant to the terms of said Contract, will not in any way release either the principal or surety thereunder, nor will any extensions of time granted under the provisions of said Contract release either the principal or surety, and notice of such alterations or extensions of the Contract must be waived by the surety. The bonds must be maintained in full force and effect until the Contract has been completely performed and until all claims for material and labor have been paid.

E. Once the Notice of Completion has been recorded, Contractor may elect to post a Maintenance Bond equal to one hundred percent (100%) of the final Contract Price, including Contract change orders, if any, for a period of one-year after the Notice of Completion recorded date.

3.5 EXECUTION OF CONTRACT

The Contract must be signed by the successful bidder and returned, together with the Contract Bonds and valid insurance on City forms, within fifteen (15) calendar days after the date of mailing written notice to the successful bidder that the Contract has been awarded.

3.6 FAILURE TO EXECUTE CONTRACT

Failure to execute the Contract, file acceptable bonds, and/or acceptable insurance as provided herein within said fifteen (15) calendar days shall allow the City, at its discretion, to annul the award and claim the proposal guarantee as provided in the California Public Contract Code. If the successful bidder refuses or fails to execute the Contract, the City may award the Contract to the second lowest responsible bidder. If the second lowest responsible bidder refuses or fails to execute the Contract, the City may award the Contract to the third lowest responsible bidder. On the failure or refusal of the second or third lowest responsible bidder, to whom any Contract is so awarded, to execute the same, such bidders' guarantees must be likewise forfeited to the City. The Work may then be re-advertised or may be constructed by other means as the City may decide.

SECTION 4

SCOPE OF WORK

4.1 WORK TO BE DONE BY CONTRACTOR

A. The Work to be done consists of furnishing all labor, methods or processes, implements, tools, machinery, transportation, insurance, permits, bonds, taxes and materials, except as otherwise specified which are required to construct the replacement of the roofs on the restroom and concession buildings at Honeybee Pool in complete order for use and to leave the grounds in a neat and orderly condition.

B. Where items contain a description of work to be included for payment under a particular item, such description will be considered as including, but not being limited to, the Work described. It is further understood that it is the intent that the cost of all Work necessary for the completion of a particular item must be included in the price proposal for the item, unless the cost of such Work is specifically included in another item.

4.2 FINAL CLEANUP

A. Before City's final inspection, Contractor must clean the site and grounds occupied by it in connection with the Work of all rubbish, excess materials, falsework, temporary structures, and equipment, and all parts of the Work must be left in a neat and presentable condition. Nothing herein, however, requires Contractor to remove warning and directional signs prior to City's formal acceptance of the Work.

B. When Contractor utilizes a staging area or storage yard that is fenced and screened, final cleanup of the staging area and storage yard will be completed before the fence and screen are removed, except for spot cleanup or trimming that may be required in areas directly under or adjacent to the fence and screen.

4.3 CHANGES IN THE CONTRACT - EFFECT BETWEEN PARTIES

A. City reserves the right to make such alterations or deviations, additions to or omissions from the plans and specifications, as may be determined during the progress of the Work to be necessary and advisable for the proper completion thereof. When such change is ordered, the City Engineer must determine and state in his/her written order to Contractor made pursuant thereto whether in his/her opinion such change constitutes a material change and what adjustment of consideration provided for in the Contract is warranted. Upon written order of the City Engineer, Contractor must proceed with the Work as so increased, decreased or altered. Such action and any disposition thereof may be taken without notice by City to Contractor's insurance underwriters, sureties, or guarantors required by this Contract and absence of notice thereto will not discharge the obligation of any such party.

B. When City and Contractor fail to agree as to whether an omission of a portion of the work or alterations, or deviations or additions to or omissions from the plans and specifications ordered by the Engineer or City constitute a material change or difference in character of the Work as herein contemplated sufficient to warrant adjustment in the consideration provided to be paid to the Contractor or fail to agree on the consideration adjustment or compensation to be allowed for such change, Contractor must forthwith proceed with the changed Work upon receipt of written

order from the City Engineer.

C. Pending a settlement of the dispute, the Contractor must file with the City Engineer, within ten (10) days after receiving such written notice to proceed, a protest setting forth in detail in what particulars the character of the work was changed so as to warrant a consideration adjustment or by what amount the unit cost or other cost was increased or to what extent the consideration demand or reduction in consideration determined by the City Engineer as warranted is excessive. Failure to file such a protest in the time allotted will be deemed a waiver of any right to protest, and Contractor will proceed to complete the Work under the changed Contract terms and specifications.

D. The failure of the parties to agree will not be construed as relieving Contractor of its duty and responsibility for continuing with performance under the Contract as changed. Failure to continue performance under such circumstances will constitute a material breach of Contract by Contractor and the appropriate provisions hereof with relation thereto will apply. The determination of the City Engineer of the amount of reduction in Contract consideration or other consideration to City or increase in consideration or other basis of compensation to Contractor arising out of any such change will be final and binding upon the Contractor, unless it files a protest as set forth in Section 4.3(C) above. Payment by City on the basis of Contract prices so adjusted will constitute full and final performance of City obligations hereunder. If the parties fail to agree prior to completion of the Contract, final payments will not be delayed but must be made in accordance with the City Engineer's determinations subject to further claim of Contractor and compliance by City with court order, but nothing contained in this clause will excuse Contractor from proceeding with the performance of the Work as changed.

4.3.1 Reduction in Cost

If the cost of the Work to Contractor is reduced by reason of any modification of the Contract, compensation must be made to City therefor or a proportionate reduction in Contract consideration must be made therefor.

4.3.2 Quantity Changes

The quantities given in the proposal schedule for unit price items are for comparing proposals and may vary from the actual final quantities. Some quantities may be increased and others may be decreased or eliminated, and no claims can be made against the City for damage occasioned thereby or for loss of anticipated profits, Contractor being entitled only to compensation for the actual work done at the unit prices proposed.

4.3.3 Extra Work

A. City reserves the right, when confronted with unpredicted conditions, unforeseen events, or emergencies, to revise the details of the contemplated Work or to add work of a different character or function and have the Contractor perform such revised or added work, as Extra Work, when such Extra Work is considered by the City Engineer to be vitally appurtenant to the satisfactory completion of the Project. "Extra Work" is defined as added work of a different character or function and for which no basis for payment is prescribed in the Contract or that involving revisions of the details of the Work in such a manner as to render inequitable payment under items upon which the Contractor proposed; or that work to be done under stipulated prices as given in the Schedule of Bid Prices.

B. Contractor's execution of the Contract will be deemed to be an agreement on its part to perform Extra Work, as and when ordered by the City Engineer. Contractor must give notice to the sureties on the Contractor's bonds if the estimated total value of the Contract, as changed or supplemented, exceeds the original total proposal price by more than twenty-five percent (25%), but failure to give such notice will not affect the surety's obligation under said bonds. If required Extra Work results in delay to the Work, Contractor will be given an equivalent extension of time.

C. Upon City's decision to have Extra Work performed, the City Engineer will so inform Contractor, acquainting it with the details of the new work. Should an item of work within the proposal schedule correspond with the type of work to be done under Extra Work to the mutual satisfaction of Contractor and City, the Extra Work must be performed at the stipulated bid price and in the manner provided for said item. Should such Extra Work not correspond to a stipulated bid price, Contractor must prepare a price for said work based upon its estimate of cost and submit said price and estimate to the City Engineer based on one of the following methods as requested by City:

(1) For a stated unit price or lump sum amount based upon current prevailing fair prices for materials, labor, plant, overhead, and profit; or

(2) On a cost plus markup basis ("force account" by the Contractor). All work done by Contractor on a cost plus markup basis will be computed in the manner hereinafter described, and the compensation thus provided must be accepted as payment in full by the Contractor, and no additional payment will be allowed for the use of small tools, superintendent's services, timekeeper's services, nor any other overhead expenses incurred in the prosecution of the force account work.

(3) Under either method, total cost must include:

(a) **MATERIALS:** For all materials purchased by Contractor and used in this specific work, the cost estimate shall reflect the actual cost less normal discounts of such materials, including freight and delivery charges, as shown by original receipted bills. Salvage value, as may be agreed upon between the City and the Contractor for materials which are not permanently incorporated in the work, will be deducted from the total amount as derived above. City reserves the right to furnish such materials required as it deems advisable, and Contractor shall have no claim for profit on the cost of such materials.

(b) **LABOR:** For all direct labor engaged in the specific operation, the Contractor will receive the prevailing wage paid on the Project for each and every hour that said labor is actually engaged in such work. In addition, City will reimburse Contractor for unemployment compensation insurance payments; contributions made to the State as required by the provisions of the Unemployment Reserve Act, Chapter 352, Statutes of 1935, as amended; and for taxes paid to the federal government, as required by the Social Securities Act, approved August 14, 1935, as amended.

(c) **EQUIPMENT:** For any machine, power and equipment which is deemed necessary, Contractor will receive the actual cost of rented equipment furnished by it as shown on its paid vouchers. For the use of equipment Contractor owns, it will be paid at the rental rates currently prevailing in the locality, and said rental rates must be deemed to include profit and overhead, and no extra compensation will be allowed, nor will any percentage or amount whatsoever be added thereto.

(d) MARKUP:

(i) Work by Contractor. A fifteen percent (15%) allowance will be added to Contractor's direct costs and will constitute the markup for all overhead and profit on Contractor's work. Contractor will also be compensated for any actual increase in the Contractor's bond premium caused by the Extra Work.

(ii) Work by Subcontractor. When any of the Extra Work is performed by a subcontractor, a fifteen percent (15%) allowance will be added to the subcontractor's direct costs and will constitute the markup for all overhead and profit on work by the subcontractor. In addition, a five percent (5%) allowance will also be added to the subcontractor's direct cost and will constitute the markup for all overhead and profit for Contractor on work by the subcontractor. Contractor will also be compensated for any actual increase in Contractor's bond premium caused by the Extra Work.

D. Contractor shall not commence Extra Work until it has secured City's approval as to the method and amount of payment thereunder, excepting that the City Engineer may, in writing, order Contractor to proceed with Extra Work in advance of such approval.

E. Upon receipt of the Contractor's price, the City Engineer will make an analysis thereof, and City will adopt one of the following procedures for prosecuting the Extra Work:

(1) Accept Contractor's price for the lump sum or unit price amount in the original or amended form and direct Contractor to proceed with the work; or direct Contractor to perform the work on a cost plus markup basis; or

(2) Have the work performed by the City or another contractor under separate contract, without undue interference or hindrance to Contractor and without claim or suit by Contractor for damages on account thereof.

4.4 MAINTENANCE OF DETOURS

A. Contractor will construct and maintain detours and detour bridges for the use of public traffic as provided in the Special Provisions, or as shown on the plans or as directed by the Engineer, and payment for such work will be made as set forth in the Special Provisions or at the contract prices for the items of work involved if the work being performed is covered by contract items of work, and no other method of payment therefor is provided in the Special Provisions. Otherwise, the work will be paid for as Extra Work as specified under Paragraph 4.3 of this section.

B. When public traffic is routed through the work, provisions for passageway through construction operations will not be considered as detour construction or detour maintenance.

C. Detours used exclusively by Contractor for hauling materials and equipment will be constructed and maintained by Contractor at Contractor's expense.

D. Contractor's failure or refusal to construct and maintain detours at the proper time will be sufficient cause for closing down the work until such detours are in satisfactory condition for the safe use of public traffic.

E. Where Contractor's hauling is causing such damage to the detour that its maintenance in a condition satisfactory for public traffic is made difficult or unusually expensive, the Engineer will have authority to regulate Contractor's hauling over the detour.

4.5 USE OF MATERIALS FOUND ON THE WORK

Contractor, with the approval of the Engineer, may use in the proposed construction such stone, gravel, sand or other material suitable, in the opinion of the Engineer, as may be found in the excavation, but it must replace at its own expense with other suitable material all of that portion of the material so removed and used which was contemplated for use in the embankments, backfills, bridge approaches, or otherwise. No charge for materials so used will be made against Contractor. Contractor shall not excavate or remove any materials from within the Project location which is not within the excavation, as indicated by the slope and grade lines, without written authorization from the Engineer.

SECTION 5

CONTROL OF THE WORK

5.1 AUTHORITY OF CITY ENGINEER

The City Engineer must decide all questions which may arise as to the quality or acceptability of materials furnished and work performed, the manner of performance, the rate of progress of the work, and the interpretation of the Plans and Specifications. His/her decision will be final, unless otherwise ordered by the City Manager or Assistant City Manager, and the City Engineer will have the authority to enforce and make effective all decisions and orders Contractor fails to carry out promptly.

5.2 PLANS

The approved Plans are hereby made a part of these Specifications. These Plans show in general the nature and dimensions of the work to be done. Contractor acknowledges that changes may be made to the Plans according to the best interests of the City.

5.3 CONFORMITY WITH PLANS

A. Finished surfaces in all cases must conform with the lines, grades, cross sections, and dimensions shown on the approved Plans. Deviations from the approved Plans and working drawings, as may be required by the exigencies of construction, will in all cases be determined by the City Engineer and must be authorized in writing by him/her.

B. Contractor must have Plans and Specifications for the Project on the Project location at all times and must make these Plans and Specifications available to the Engineer upon request.

5.4 WORKING DRAWINGS

A. Contractor must submit working drawings, in quadruplicate, as required by the Special Provisions. Working drawings for any structure must consist of such detailed plans as may be required for the prosecution of the work and are not included in the plans furnished by the City. They must include shop details, erection plans, masonry layout diagrams, and bending diagrams for reinforcing steel, which must be approved by the Engineer before any work involving these plans is performed. Plans for cribs, cofferdams, falsework, centering, and form work will be required and must be subject to approval, unless approval is waived by the Engineer. These plans will be subject to approval insofar as the details affect the character of the finished work, but other details of design will be left to Contractor, who must be responsible for the successful construction of the work.

B. Contractor hereby acknowledges that approval by the Engineer of Contractor's working drawings does not relieve Contractor of any responsibility for accuracy of dimensions and details, or for mutual agreement of dimensions and details.

C. Full compensation for furnishing all working drawings must be considered as included in the prices paid for the various Contract items of work, and no additional allowance will be made therefor.

5.5 COORDINATION OF PLANS, SPECIFICATIONS, AND SPECIAL PROVISIONS

A. These Specifications, the Plans, Special Provisions, Contract change orders, and all supplementary documents are essential parts of the Contract, and a requirement occurring in one is binding as though occurring in all. They are intended to be cooperative and to describe and provide

for a complete work.

B. In case of discrepancy either in the Plans or Specifications, the matter must be promptly submitted to the City Engineer who must make a determination in writing. Any adjustment by the Contractor without this determination will be at its own risk and expense. If Contractor, in the course of the work, finds any discrepancy in the Plans in the physical conditions of the locality or any errors or omissions in the Plans or in the layout as given by survey points and instructions, Contractor must immediately notify the Engineer in writing who will promptly verify the same. Any work or material not herein specified or shown on the Plans, but which is fairly implied in the judgment of the City Engineer, should be included therein, must be done or furnished as a part of the Contract as though shown or included in the Plans or Specifications. Any work done after such discovery, until authorized, will be done at Contractor's risk.

5.6 INTERPRETATION OF PLANS AND SPECIFICATIONS

A. Should it appear that the work to be done or any of the matter relative thereto are not sufficiently detailed or explained in the Plans and Specifications, Contractor shall apply to the Engineer for such further explanations as may be necessary and must conform to them as part of the Contract, so far as they may be consistent with the original Specifications; and in the event of any doubt or question arising respecting the true meaning of the Specifications, reference must be made to the City Engineer, whose decision thereon will be final.

B. In the event of any discrepancy between any Plans and the figures written thereon, the figures must be taken as correct.

5.7 SUPERINTENDENCE

A. Whenever Contractor is not present on any part of the work where it may be desired to give direction, the Engineer will give orders that must be received and obeyed by the superintendent, foreman or authorized representative who may have charge of the particular work in reference to which the orders are given. Any order given by the Engineer, not otherwise required by the Specifications to be in writing, will, on Contractor's request, be given or confirmed by the Engineer in writing.

B. An authorized representative of the Contractor must be present at the site of the Work at all times, both while work is actually in progress and during periods when work is suspended.

C. Where Contractor is comprised of two or more persons, co-partnership or corporations, functioning on a joint venture basis, Contractor must designate in writing to the City the name of their authorized representative who must have supreme authority to direct the work and to whom orders will be given by the Engineer, to be received and obeyed by Contractor.

D. Contractor must have a sufficient number of superintendents or foremen on the site of the work to adequately supervise and direct each major type of its construction work, and when, in the opinion of the Engineer, Contractor's required supervisory personnel are considered inadequate, Contractor, upon request from the City, must promptly provide adequate personnel.

5.8 LINES, GRADES AND MEASUREMENTS

A. Contractor will do the initial staking out of the work unless otherwise stated in the Special Provisions. Contractor will establish control lines and offset lines and set all stakes normally

required so Contractor can make the necessary measurements therefrom for the layout of the details of its work without the need for surveyors. Survey stakes and benchmarks removed by the carelessness of Contractor or its employees will be replaced by the City at Contractor's expense.

B. Contractor must employ skilled personnel for making measurements and skilled mechanics for setting equipment or metal parts that are to be permanently imbedded in or attached to proposed structures. Contractor must remedy any inaccuracies in the placing of equipment or metal parts at its own cost. Any inaccuracies in the performance of the Contractor's work due to faulty transfer or measurements must be remedied by the Contractor at its own expense.

5.9 INSPECTION

A. Except as otherwise provided in paragraph (D) below, all material and workmanship, if not otherwise designated by the Specifications, must be subject to inspection, examination and test by the Engineer at any and all times during manufacture and/or construction and at any and all places where such manufacture and/or construction are carried on. The Engineer may reject defective material and workmanship or require its correction. Rejected workmanship must be satisfactorily corrected, and rejected material must be satisfactorily replaced with proper material without charge therefor, and Contractor must promptly segregate and remove the rejected material from the premises. If Contractor fails to proceed at once with the replacement of rejected material and/or the correction of defective workmanship, the Engineer may by contract or otherwise replace such material and/or correct such workmanship and charge the cost thereof to Contractor, or may terminate the right of Contractor to proceed.

B. Contractor must furnish promptly without additional charge, all reasonable facilities, labor, and materials necessary for the safe and convenient inspection and tests as the Engineer may require. All Engineer inspections and tests will be performed in such a manner as not unnecessarily to delay the work. Special, full size, and performance tests will be as described in the Specifications. Contractor will be charged with any additional cost of inspection when material and workmanship are not ready at the time inspection is requested by the Contractor.

C. Inspection of material and finished articles to be incorporated in the work at the site must be made at the place of production, manufacture, or shipment, whenever the quantity justifies it, unless otherwise stated in the Specifications; and such inspection and written or other formal acceptance, unless otherwise stated in the Specifications, will be final, except as regards latent defects, departures from specific requirements of the Contract, damage or loss in transit, frauds, or such gross mistakes amount to fraud. Subject to the requirements contained in the preceding sentence, the inspection of material and workmanship for final acceptance as a whole or in part must be made at the site. Nothing contained in this paragraph will in any way restrict the City's rights under any warranty or guarantee. No work will be covered by a succeeding operation until the Engineer has had adequate notice and a sufficient opportunity to inspect the work. Any violation of this requirement will be deemed an attempt to defraud the City, and the work covered may be rejected. Contractor must comply promptly with all instructions of the Engineer. Failure to so comply will be sufficient cause for breach of Contract. The Engineer may, when in the best interests of the City, order a suspension of the work or any part of the work which is not, in his/her opinion, proceeding satisfactorily.

D. The inspection of the work will not relieve Contractor of any of its obligations to fulfill its Contract as prescribed.

E. Should the Engineer consider it necessary or advisable at any time before final acceptance of the entire work to examine work already completed, and upon which adequate notice and sufficient opportunity for inspection was provided, Contractor must on request promptly furnish all necessary facilities, labor, and material. If such work is found to be defective or non-conforming in any material respect due to fault of the Contractor or its subcontractors, Contractor must defray all the expense of such examination and of satisfactory reconstruction. If, however, such work is found to meet the requirements of the Contract, the actual direct cost of labor and material necessarily involved in the examination and replacement, plus markup as determined in Section 4.3, will be allowed the Contractor, and if completion of the work has been delayed thereby, Contractor will be granted a suitable extension of time on account of the additional work involved.

F. All inspections by the City, the Engineer, or the Engineer's representative are for the City's use in determining the acceptability of the Project. Contractor is responsible for the quality of all materials supplied and all workmanship. Contractor must provide and implement a quality control program independent of the inspections provided by the City. Such quality control program must be designed to ensure materials and workmanship are of first quality in conformance with these specifications and the best practices of the construction industry. Contractor's quality control plan must be submitted to the Engineer for review within fifteen (15) days of Notice to Proceed. Approval of the quality control plan by the Engineer does not relieve Contractor of providing sufficient tests or certifications to provide a complete and useable product in accordance with these specifications.

5.10 UNAUTHORIZED WORK AND DEFECTIVE WORK OR MATERIALS

Any work done beyond the scope of the Plans and Specifications established by the City Engineer, or any Extra Work done without written authority, will be considered unauthorized and will not be paid for. Work so done may be ordered removed at Contractor's expense. Upon failure of Contractor to comply promptly with any order of the Engineer made under the provisions of this Section 5, the City Engineer will have authority to cause defective work or materials to be remedied or removed and replaced, and unauthorized work to be removed, and to deduct the cost from any moneys due or to become due to the Contractor notwithstanding that such defective work and materials have been previously overlooked by the Engineer and accepted or estimated for payment.

5.11 METHODS AND EQUIPMENT

A. Equipment not suitable to produce the quality of work required will not be permitted to operate on the Project. If the City Engineer or representative observes unsuitable equipment, the City Engineer shall have the right and authority to stop work. Contractor will not be granted extra additional days or compensation for delay due to Contractor's use of unsuitable equipment.

B. Plants must be designed and constructed in accordance with general practice for such equipment and must be of sufficient capacity and of such character to insure the production of sufficient material to carry the work to completion within the time limit.

C. Contractor must provide adequate and suitable equipment and plants to meet the above requirements and, when ordered by the Engineer, must remove unsuitable equipment from the work and discontinue the operation of unsatisfactory plants.

D. Each machine or unit of equipment must be operated by a person experienced in handling the particular make of machine or unit of equipment in use, at a speed or rate of production

not to exceed that Manufacturer's recommendations.

E. All vehicles used to haul materials over existing highways must be equipped with pneumatic tires.

F. Beam scales for use in batchers, proportioning plants, platform scales, or for other purposes must be equipped with "V" blocks and pivots of hard steel in all hangers or other points of support which are used as parts of the weighing mechanism.

5.12 FINAL INSPECTION AND ACCEPTANCE

A. City will inspect the work for acceptance promptly upon receipt of notice in writing from Contractor, that the work required under the Contract has been performed.

B. If, in the judgment of the City Engineer, the work has been completed in accordance with the Plans and the Specifications and is ready for acceptance, he/she will so certify and accept the completed work in accordance with the City's approved procedures. The City Engineer will, in his/her certification, give the date upon which the work was completed. Upon City's acceptance pursuant to such certification, the date of completion as certified by the City Engineer will be the date of completion of work up to which penalties for liquidated damages, if any, will be computed.

5.13 CLEANUP WORK

A. During construction, Contractor must keep the site reasonably free and clear from all rubbish and debris. Care must be taken to prevent spillage when hauling is being done on any public road or street, and any such spillage or debris resulting from Contractor's operation must be immediately cleaned up.

B. Upon the completion of the work, Contractor must remove all plants, building, rubbish, unused materials, concrete forms and other like material belonging to it or used under its direction during the construction. In the event of its failure to do so, the same may be removed by the City at Contractor's expense.

SECTION 6

CONTROL OF MATERIALS

6.1 CITY-FURNISHED MATERIALS

A. Contractor must notify the City as to the time at which it will require those materials which are to be furnished by the City. This notice must be given in sufficient advance of actual need to avoid delay.

B. City-furnished materials will be delivered Freight on Board (f.o.b.) trucks at the site of the work. "Site of the work" means the nearest point to the work which is readily accessible to trucks. Contractor will be charged with any standby or demurrage charges which may accrue at the point of delivery because of their failure to unload the trucks immediately upon their arrival at the site of work.

C. Contractor must receive and be responsible for these materials, storing those which may be damaged by the elements, in a safe, substantial manner until they are used in the work.

D. Any materials City delivered in an acceptable condition to Contractor which are subsequently lost or rejected due to damages from handling, transporting, storing, flood waters, fire, or for any other reasons before its use in the completed Work, must be paid for by the Contractor. The total value of such materials will be deducted from moneys due or becoming due to Contractor. Contractor must remove any condemned material immediately and permanently from the site of work.

E. Any of the City's materials, remaining unused after all requirements for said materials have been met, must be promptly returned to City in acceptable condition. Contractor must return these materials f.o.b. to the City's truck at the site of work and at such points as will be conveniently accessible to City transportation.

F. Contractor must not sell, assign, mortgage, hypothecate, or remove equipment or materials which have been installed or delivered and which may be necessary for the completion of the Contract, without the City's written consent.

6.2 MATERIALS TO BE FURNISHED BY THE CONTRACTOR

Unless otherwise specified herein, or on the Plans and Specifications, Contractor must furnish all materials required for the completion of the Contract. The cost of hauling, storing and handling of all the materials Contractor is required to furnish must be included in the unit price proposal in the schedule for the work for which the materials are required.

6.3 SOURCE OF SUPPLY AND QUALITY OF MATERIALS

A. It is Contractor's responsibility to require material suppliers and subcontractors to furnish materials which meet the requirements of the Specifications. All materials which are to become part of the completed Project must be new and must conform to the requirement prescribed therefor in these Specifications or as specified in the Special Provisions.

B. Unless otherwise waived in writing by the Engineer, Contractor will be required to furnish the City with certification(s) prepared and signed by the manufacturers and/or suppliers to the effect that items furnished meet all the requirements of the Specifications. Such certification(s) must be furnished prior to the use of the material in any part of the construction.

C. In the case of sand and gravel to be used for concrete construction, Contractor must notify the City's representative in writing, the sources of the available materials and secure source approval in writing prior to placing order for delivery of this material to the job site.

6.4 WATER AND ELECTRIC POWER

A. Unless otherwise indicated in the proposal schedules, Contractor will be responsible for providing, paying all costs for, and maintaining at their own expense an adequate supply of water and electric power of a quality suitable for construction and domestic purposes.

B. Contractor must indemnify, defend, and save City harmless against any and all claims or suits for damages arising from its acquisition and use of electric power and water.

6.5 MATERIALS AND WORKMANSHIP; WARRANTY

A. All material furnished by the Contractor must be of the specified quality and equal to approved samples, if samples have been submitted. All work must be performed and completed in a thorough, workmanlike manner, notwithstanding any omission from the Plans and Specifications. All work done and all materials furnished must comply with these Specifications to the City's satisfaction .

B. Materials furnished by Contractor and condemned by the Engineer as being unfit for use must be immediately and permanently removed from the site of work. Unused materials, except such as furnished by the City, will remain the property of Contractor.

C. Contractor warrants that all construction services shall be performed in accordance with generally accepted professional standards of good and sound construction practices, all Contract Documents requirements, and all laws, codes, standards, licenses, and permits. Contractor warrants that all materials and equipment shall be new, of suitable grade of their respective kinds for their intended uses, and free from defects. Contractor hereby grants to City for a period of one (1) year following the date of completion its unconditional warranty of the quality and adequacy of all of the Work including, without limitation, all labor, materials and equipment provided by Contractor and its Subcontractors of all tiers. If either prior to completion of the Work, or within one (1) year after completion, any Work (completed or incomplete) is found to violate any of the foregoing warranties (Defective Work), Contractor shall promptly, without cost to City and in accordance with City's written instructions, correct, remove and replace the Defective Work with conforming Work, and correct, remove and replace any damage to other Work or other property resulting therefrom. If Contractor fails to do so, Contractor shall pay all of the City's resulting claims, costs, losses and damages. Where Contractor fails to correct Defective Work, or defects are discovered outside the correction period, City shall have all rights and remedies granted by law.

6.6 STORAGE OF MATERIALS

Materials must be so stored as to insure the preservation of their quality and fitness for the work. When considered necessary by the Engineer, they must be placed on wooden platforms or other hard, clean surfaces and not on the ground. They must be placed under cover when so directed. Stored materials must be so located as to facilitate prompt inspection.

6.7 SAMPLES AND SPECIMENS

Contractor must submit specimens or samples of materials to be used in the work as the Engineer may require.

6.8 TRADE NAMES AND ALTERNATIVES

A. For convenience in designation on the Plans or in the Specifications, certain equipment or articles or materials may be designated under the trade name of a manufacturer and its catalogue information. The use of alternative equipment or an article or material which is of equal quality and of the required characteristics for the purpose intended will be permitted, subject to the approval of the City Engineer.

B. The burden of proof as to the comparative quality and suitability of alternative equipment or articles or materials is on Contractor, and it must furnish, at its own expense, all information necessary or related thereto as required by the City Engineer. The City Engineer will be the sole judge as to the comparative quality and suitability of alternative equipment or articles or materials, and his/her decision will be final.

C. Contractor's price proposal is assumed to be on the basis of trade names specified or designated in the Specifications. Savings resulting from use of a less expensive equal or alternate must accrue to the City and must be subtracted from the unit price for this item.

6.9 REMOVAL OF EQUIPMENT OR MATERIALS

Contractor may not sell, assign, mortgage, hypothecate or remove equipment or materials which have been installed or delivered and which may be necessary for the completion of the Contract without the written consent of the City.

6.10 TESTING OF MATERIALS

Unless otherwise specified elsewhere in the Specifications or in the Special Provisions or called for in the Plans, the City or its authorized representative shall perform all tests of materials and work for determining compliance with specified requirements.

SECTION 7

LEGAL RELATIONS AND RESPONSIBILITY

7.1 LAWS TO BE OBSERVED

Contractor must keep itself fully informed of all existing and future State and Federal laws and County and municipal ordinances and regulations which in any manner affect those engaged or employed in the work, or the materials used in the work, or which in any way affect the conduct of the work, and of all such orders and decrees of bodies or tribunals having any jurisdiction or authority over the same. Contractor must at all times observe and comply with all such existing and future laws, ordinances, regulations, orders, and decrees of bodies or tribunals having any jurisdiction or authority over the work; and must indemnify, defend, and hold the City and all its officers, agents and servants harmless against any claim or liability arising from or based on the violation of any such law, ordinance, regulation, order, or decree, whether by itself or its employees or agents. If any discrepancy or inconsistency is discovered in the Plans, Drawings, Specifications, or Contract for the Work in relation to any such law, ordinance, regulation, order or decree, Contractor must forthwith report the same to the City Engineer in writing.

7.2 PERMITS

A. City will obtain all necessary rights and approvals for the work to occupy properties in streets, highways or railways. Contractor will obtain all permits and pay any fees connected therewith having to do with its construction operations. Contractor will furnish City with a copy of all permits and must fully comply with all conditions and provisions of same.

B. Bidders must contact railway companies affected by the work under the Project and ascertain their requirements in respect to indemnification agreements, bonds and insurance. Upon award of the Contract, Contractor must immediately again contact the railway company and, if required, enter into an indemnification agreement, furnish bonds and insurance, and pay the fees therefor.

C. All expenses incurred by the railway company as a result of Contractor's operations will be borne by the Contractor.

7.3 PATENT CLAIMS

The bidder must include in the price proposal for the work the patent fees or royalties or charges upon any patented article or process which it may furnish or use in the prosecution of the work, and the bidder to whom the Contract is awarded must indemnify, defend and save the City harmless against any legal action that may be brought for infringement of patents upon any articles or processes that may be used by Contractor in the prosecution of the work. Contractor must furnish satisfactory evidence of release of all claims of this nature before the final payment is made upon the Contract.

7.4 SANITARY PROVISIONS

Contractor must provide and maintain in a neat and sanitary condition such accommodations for the use of its employees as may be necessary to comply with all applicable laws, ordinances and regulations pertaining to the public health and sanitation of dwellings and camps. Enclosed toilets must be provided for the use of the persons employed or engaged on any work under these Specifications.

7.5 RIGHT OF WAY AND RIGHT OF ACCESS

A. City will acquire all permanent rights of way or permanent easements required for the constructed Project. Contractor is hereby authorized to use the site for the purposes described in the Specifications.

B. Contractor is responsible for obtaining the right to enter, remove, alter, or make use of any existing road, culvert, bridge, canal, pipeline, levee, fence or similar barrier, lines of communications or improvement of any nature, or the trespassing on privately owned lands, and it must indemnify, defend and save City harmless from any and all claims for such damages occasioned by such entering, removing, altering, using or trespassing.

C. In case of interference to the work by delay of the City in furnishing permanent rights of way or permanent easements, Contractor will be allowed an extension of time equivalent to the time lost by unavoidable delay in the completion of the Contract because of the failure to furnish the rights of way on time, but no damages will be allowed or paid for such delay.

D. Rights of way and/or easements and construction easements have been secured for work sites, and for trails and roadways as considered necessary for ingress and egress to the work site. Such rights and/or easements have been delineated on the Plans. The right to enter, remove, alter, or otherwise make use of adjacent property, roads, utility lines, fences, vegetation and other improvements as not included within the rights of way or easements will be at Contractor's sole expense and responsibility .

7.6 PUBLIC CONVENIENCE AND ACCESS

A. Contractor must conduct its operations so as to cause the minimum obstruction and inconvenience to traffic and to places of business and residence adjacent to the work. No greater quantity of work must be under construction at any one time than can be properly conducted with due regard for the rights of the public. Where existing streets are not available as detours, all traffic must be permitted to pass through the work with as little inconvenience and delay as possible, unless otherwise provided or authorized. If only half the street is under improvement, the other half must be conditioned and maintained as a detour.

B. The work must be conducted by tunneling, backfilling or bridging where necessary to provide access to fire hydrants and water gates; driveways to service stations, markets or other places of business requiring public vehicular access; and driveways to private residences, unless Contractor makes other arrangements satisfactory to the City. Temporary approaches to intersecting streets and alleys must be provided and maintained in good condition. Safe crossings for pedestrians must be provided at intervals of not more than three hundred feet (300').

7.7 STORAGE OF MATERIALS IN PUBLIC STREETS, ROADS OR HIGHWAYS

Construction materials must not be stored on the streets unless permitted by the City Engineer.

7.8 PUBLIC SAFETY

Contractor is required by law to conform to the "Construction Safety Order," "Trench Construction Safety Orders," "General Safety Orders," and "Tunnel Safety Rules" of the California Division of Occupational Safety and Health. Contractor must maintain copies of these rules and orders at the site of its operations and shall be governed by the requirements thereof.

The requirements concerning Ventilation, General Safety Precautions, Transportation, Roof Inspection, Timbering, and all rules and regulation concerning the use of explosives are of particular importance.

7.9 STREET CLOSURES, DETOURS, BARRICADES

A. In addition to the requirements of this paragraph and Section 4 of these Specifications, Contractor must, unless otherwise permitted by the City Engineer, conform to the requirements for street closures, detours and barricades as stipulated in the Special Provisions. However, the City Engineer may permit deviations from the requirements stipulated therein when such deviations are to the best interests of the City and are approved by the County, City or State authorities concerned.

B. During the progress of the work, Contractor must make adequate provisions to accommodate the normal traffic along streets and highways immediately adjacent to or crossing the work so as to cause a minimum of inconvenience to the general public.

C. Contractor must give due notice to local police and fire departments prior to beginning construction and must cooperate with said departments in complying with their requirements pertaining to emergency vehicles and equipment.

D. Contractor must comply with County, City or State requirements and authorities concerning closure of streets; the providing of barriers, guards, lights, temporary bridges, flagmen and watchmen; and the posting of proper notices or signals to the public regarding detours and the condition of the work under construction so as to effectively guard the public from danger as a result of the work being done under the Contract. Contractor must fully comply with such requirements. Contractor must also be held responsible for compliance with any additional requirements as may arise during the progress of the work. All costs involved in respect to the above requirements will be considered as included in the price proposals for the various items of work.

E. Contractor must furnish, install, and upon completion of the work, remove all signs and warning devices required for directing and protecting the public during construction.

F. The signs and posting thereof must conform to the current requirements as specified in the manuals covering signs published by the Division of Highways, Department of Public Works of the State of California. Copies of these manuals are on file in the office of the Engineer.

G. Contractor must notify the appropriate authorities of any municipality or unincorporated area twenty-four (24) hours in advance of the start of any construction work being done in said municipality or area.

H. The provisions of Paragraph 7.18, "Emergencies and Responsibility for Damage," apply to the precautions and safeguards taken by Contractor in connection with the closure of streets, barricades, detours, signs, etc., as required by the above authorities.

7.10 USE OF EXPLOSIVES

A. The use of explosives will not be permitted unless otherwise stated in the Special Provisions. If permitted, the method employed and the quantity of explosives used must at all times be subject to the approval of the Engineer. Explosives must be handled, used and stored in accordance with the provisions and requirements of all applicable laws, ordinances and regulations with respect thereto.

B. The Engineer's approval for the use of explosives does not relieve Contractor from its responsibility to indemnify, defend and save City harmless from any legal actions or claims brought against it because of or on account of the use of explosives.

7.11 PRESERVATION OF PROPERTY

A. Contractor is responsible for the protection, restoration, or the replacement of any improvements such as, but not limited to, lawns, trees, shrubs, hedges, fences, walls, sidewalks, driveways, curbs, gutters and pavement existing on public or private property at the start of work or placed there during the progress of work and not being specified or shown on the drawings to be either temporarily or permanently removed. Contractor is responsible for removal of all USA Markings created within the Project limits and in relation to the Project. Replacement or restoration must meet the approval of the Engineer.

B. With respect to trees, Contractor must obtain permission from the Engineer and from any jurisdictional agency concerned prior to the removal or trimming of any trees, except where a tree is specifically indicated on the Plans or in the Specifications to be removed. Trees which are so indicated need not be replaced except where otherwise stipulated in the Specifications.

C. All costs involved in the protection and restoration of existing improvements as herein specified must be included in the prices proposal for the various items of work.

7.12 PRESERVATION OF MONUMENTS

Contractor must not disturb any monuments or stakes found on the lines of improvements without permission from the Engineer, and must bear the expenses of resetting any monuments or stakes which may have been disturbed with such permission. Contractor must reset all street signs and traffic signs it disturbed during the progress of the Work.

7.13 SAFEGUARDING EXCAVATIONS AND STRUCTURES

A. In excavating for the Project, Contractor must be fully responsible for providing and installing adequate sheeting and/or timbering and bracing as may be necessary as a precaution against slides or cave-ins, and to protect all existing improvements of any kind, either on public or private property, from damage. Contractor must make necessary repairs to or reconstruction of any such damaged improvements at its own expense and as directed by the Engineer.

B. Contractor must remove all shattered rock or other loose material which may be dangerous to workmen or to structures. Even if such removal enlarges the excavation beyond the required limits it does not relieve Contractor from the necessity of making such removal, and Contractor will not be entitled to additional compensation under any Contract item on account of such removal and enlargement.

C. Contractor is responsible for providing all materials required for sheeting, bracing and shoring. Upon completion of the work, except for such as may be left in place, all remaining materials will become Contractor's property and responsibility.

7.14 EMERGENCIES AND RESPONSIBILITY FOR DAMAGE

A. Contractor, at all times throughout the performance of the Contract, must take all precautions necessary to prevent any accident or other cause of damage to life or property in any place affected by the operations, arising from the Work, or resulting from any unusual conditions which may arise, including but not limited to, erecting and maintaining suitable and sufficient

barriers, signs, lights, or other necessary protection. This duty also extends to interruption or contamination of public water supplies, irrigation, or other public services, or to any failures of partly completed works.

B. If, in the opinion of the Engineer, the precautions taken by Contractor are not safe or adequate at any time during the life of the Contract, he/she may order Contractor to take further precautions, and if Contractor fails to remediate the situation adequately, the Engineer may order the work done by the City and charge Contractor for the cost thereof, such cost to be deducted from any moneys due or becoming due to Contractor. Failure of the Engineer to order such additional precautions, however, does not relieve Contractor from its full responsibility for public safety.

C. Contractor must indemnify, defend and save City harmless from any legal actions or claims of every kind and description brought against City for, or on account of, any injury or damage to person or property received or sustained by any person or persons on account of work done by Contractor, any duly authorized subcontractor, agent, employee or workman of Contractor (“Indemnifying Parties”) pursuant to the Contract or any extension or addition thereof caused by the negligence of the Indemnifying Parties, or by or in consequence of any negligence in guarding the person or property, or any material used or to be used for the same, or by or on account of any material, implement, appliance or machine used in the construction, or by or on account of any accident or of any act or omission of the Indemnifying Parties.

D. City may withhold and retain a sufficient amount of the money due Contractor under the Contract as City determines is necessary until all legal actions or claims for such damages have been resolved and evidence to that effect has been furnished to the City. The retained funds under this Section are in addition to any funds retained as provided for in Paragraph 9.5.

E. All of the above provisions also apply to suits for loss of business and/or obstruction or inconvenience to business of private property owners.

7.15 DISPOSAL OF MATERIAL OUTSIDE OF CITY’S RIGHT OF WAY

A. Unless otherwise specified in the Special Provisions, Contractor must make its own arrangements for disposing of materials outside of City's right of way at Contractor’s own expense, and Contractor must pay all costs associated therewith.

B. When any material, including excess or unsuitable excavated earth or other materials are to be disposed of outside of City’s right of way, Contractor must first obtain written permit from the property owner on whose property the disposal is to be made, and it must file said permit or a certified copy thereof, together with a written release from the property owner, absolving City from any and all responsibility in connection with disposal of material on said property.

C. Unless otherwise provided in the Special Provisions, full compensation for all costs for disposing of materials, as specified above, must be included in the prices paid for the various Contract items of work, and no additional allowance will be made therefor.

7.16 CONTRACTOR'S RESPONSIBILITY FOR WORK

A. The submission of a proposal hereunder shall be considered evidence that the bidder has carefully examined the site of the work with regard to the climatic and physical conditions which will affect construction operations.

B. Throughout the term of the Contract, Contractor assumes all risks and expense of

interference and delay in its operations, and the protection from or the repair of damage to improvements being built by it under the Contract as may be caused by floods, storms, industrial waste, irrigation, underground water, or other sources. Contractor also assumes full responsibility and expense of protecting or removing and returning to the site of work all equipment or materials under its care that are or may be endangered by weather elements.

C. Furthermore, Contractor must indemnify, defend and save City harmless against all claims or suits for damage arising from Contractor's operations in dewatering the Work and efforts to control or divert water.

D. All works installed by the Contractor in connection with dewatering, control, and diversion of water, but not specified to become a permanent part of the Project, must be removed and the site restored, insofar as practical, to original condition at the Contractor's own expense.

7.17 CITY ENGINEER CANNOT WAIVE OBLIGATIONS

It is expressly agreed that neither the City Engineer nor any of his/her agents have the power or authority to waive any of the obligations of these Specifications for Contractor's furnishing of good and suitable material and for performing the work as herein described. Failure or omission on the part of the City Engineer, or any of his/her assistants or agents, to condemn defective or inferior work or materials, does not imply acceptance of the work, nor release of the Contractor from obligations to immediately tear out, remove and properly replace the same without compensation, at its own cost and expense at any time, upon the discovery of said defective work or material, prior to the final acceptance of the entire Work; neither will such failure or omission nor any acceptance by the City or by the City Engineer or any other officer or employee of the City be construed as barring the City at any subsequent time from recovery of damages from Contractor and its sureties of such a sum of money as may be needed to remove and to build anew all portions of the work in which fraud was practiced, or improper work or material hidden.

7.18 RIGHTS IN LAND IMPROVEMENTS

Nothing in these Specifications may be construed as allowing Contractor to make any arrangements with any person to permit occupancy or use of any land, structure or building within the limits of the Contract for any purpose whatsoever, either with or without compensation, in conflict with any agreement between the City and any owner, former owner, or tenant of such land, structure or building.

7.19 PERSONAL LIABILITY

Neither the City, the City Engineer, nor any of their elected officials, officers, employees or agents may be personally responsible for any liability arising under the Contract. Contractor must maintain in full force and effect, during the entire life of the Contract, public liability, property damage and personal injury insurance in amounts not less than specified in the Special Provisions. Contractor must maintain on file with the City during the entire life of the Contract a memorandum of coverage or other evidence of such insurance, issued by the underwriter. Said insurance may not be cancelled or declined renewal unless notice is mailed to the City at least forty-five (45) days prior to the effective date or renewal or at least sixty (60) days prior to the effective date of cancellation. In addition, if a public agency is named as an additional insured by way of endorsement or certificate of insurance, notice shall be given to said public agency. Contractor must pay all premiums whether said premiums cover Extra Work or work under regular Contract items.

7.20 REPAIR OF EQUIPMENT

The work of installing, assembling, repairing, reconditioning, or other work of any nature on machinery, equipment, or tools used for the Work will be considered a part of the work to be performed under the Contract, and any laborers, workmen, or mechanics working on such machinery, equipment or tools, unless employed by bonafide commercial repair shops, garages, blacksmith shops, or machine shops, which have been established and operating on a commercial basis for a period of at least two months prior to the award of the Contract, will be subject to all of the requirements relating to labor set forth in the Contract and in these Special Provisions.

7.21 CONTRACTOR'S LEGAL ADDRESS

The address given in the proposal will be considered Contractor's legal address, which may be changed at any time by notice in writing to the City at its office. The delivery to such address, or the depositing in the United States mails in a sealed envelope, postpaid, registered and properly directed to the Contractor's legal address, of any communications will be legal and sufficient service of the same upon Contractor.

7.22 COOPERATION AND COLLATERAL WORKS

A. Where two or more contractors are employed in related or adjacent work, each must conduct its operations in such manner as not to cause any unnecessary delay or hindrance to the other. Each contractor must be responsible to the other for all damage to work, to person or property, and for loss caused by failure to finish the work within the specified time for completion.

B. Contractor must also coordinate its work and cooperate with contractors or workmen employed by other agencies on or adjacent to the site of the work.

7.23 UTILITIES

A. "Utilities" for the purpose of these specifications must be considered as including, but not limited to, pipelines, conduits, transmission lines, and appurtenances of "Public Utilities" (as defined in the California Public Utilities Code) and those of private industry, businesses, or individuals solely for their own use or for the use of their tenants; and storm drains, sanitary sewers, street lighting, and traffic signal systems.

B. All utility service interrupted or severed by the Contractor's operations shall be immediately reinstated at the earliest opportunity whether by temporary or permanent connections, and permanent reconstruction must be made as soon as construction operations permit.

C. City has, by a search of known records, endeavored to locate and indicate on the drawings, all utilities that exist within the limits of the work. However, the accuracy or completeness of the utilities indicated on the drawings is not guaranteed. Service connections to adjacent property may or may not be shown on the drawings. It is Contractor's responsibility to determine the exact location of all utilities and their service connections. Contractor must make its own investigation as to the location and type of existing utilities, their appurtenances, and service connections which may be affected by the Work and must notify the City as to any utility located by it which has been incorrectly shown or omitted from the drawings.

D. Work required in connection with utilities because of interference with Contract work will be performed and paid for as specified in the following paragraphs, 7.23(D)(1) through 7.23(D)(8); however, when directed or approved by the City Engineer, changes in line or grade of

structure being built may be made in order to avoid utilities. The cost of such changes will be paid for as Extra Work.

(1) By Other Than Contractor

When it is stated in the Special Provisions or indicated on the drawings that a utility is to be relocated, altered, or reconstructed by other than Contractor, City will conduct all negotiations with the owners in respect to such work, and the work will be done at no cost to Contractor.

(2) By Contractor Under A Specified Contract Item

When the bidding schedule contains a separate item covering the relocation, alteration, or reconstruction of a utility by Contractor, the price proposal for said item must cover all costs involved in such work. The utility owner's drawings and Special Provisions will give the construction details for the work, and, unless the time at which the work must be done is specified in the Special Provisions, Contractor must coordinate with the utility owner regarding when the work is to be done.

(3) By Contractor But Not Under a Specified Contract Item

When work on a utility is specified or indicated on the Plans to be done by Contractor, but is not included as a separate Contract item in the bidding schedule, City will make all arrangements with the owner of the utility with respect to the construction details; however, Contractor must coordinate with the utility owner as to when the work is to be done. Any costs for such work must be included in the unit prices or included in the lump sum amounts proposed for the various Contract items.

(4) By Contractor - Service Connections

The alteration, temporary relocation or reconstruction of service connections to adjacent property is Contractor's responsibility, and Contractor must notify occupants of the affected properties before service is interrupted and make all arrangements with the utility owners regarding the interruption and reconstruction of service connections. The costs for such work on service connections must be included in the unit prices or in the lump sum amounts proposed for the various Contract items, unless otherwise specified in the Special Provisions. Reconstruction of sanitary sewer house connections must be accomplished in the manner shown on the Plans.

(5) By Contractor for His Own Convenience

The temporary relocation or alteration of any utility desired by Contractor solely for its own convenience in the performance of the Contract work to a position or condition other than that provided for in the Special Provisions or shown on the Plans is Contractor's responsibility, and Contractor must make all arrangements with the owners of the utility regarding such work. Any cost of such work for Contractor's own convenience must be included in the unit prices or included in the lump sum amounts proposed for the various Contract items.

(6) By Contractor or by Others – Unknown Utilities Disclosed during the Work

In the event that a utility is disclosed subsequent to the award of the Contract, such utility not being indicated on the drawings, the alteration, relocation, or proper support and protection must be done and paid for as follows:

(a) When said utility is found to occupy space required to be occupied by a part of the permanent works to be constructed under the Contract, or when said utility is more or less parallel with the conduit and, in the case of pipe conduit, found to be within vertical planes of each side of the pipe a distance away from the pipe equal to ten inches (10") for pipe ninety-six inches (96") or less in diameter and equal to twelve inches (12") for pipe greater than ninety-six inches (96") in diameter or to be within the specified excavation pay lines (when such are specified or shown on the drawings), City will arrange for the relocation or alteration of said utility or require Contractor to do the same as Extra Work. However, when said utility is found to cross the excavation laterally, but not to intercept the permanent works to be constructed, then Contractor will be required to maintain the utility in place at its own expense.

(b) When said utility is more or less parallel with and any portion of it does not lie within the vertical planes specified hereinabove (for pipe conduit) or does not lie within the excavation pay lines (when such are specified or shown on the drawings), Contractor must advise the City thereof, and, in cooperation with the City, provide and place the necessary support for proper protection to insure continuous and safe operation of the utility structure. All costs for such work must be borne by Contractor, unless it is ascertained by the City that the utility's franchise is such as to require the utility to bear such costs, in which case it will be Contractor's responsibility to secure enforcement of said franchise if it so desires.

(7) Responsibility of Contractor

Contractor is responsible for all costs for the repair of any and all damage to the Work or to any utility (whether previously known or disclosed during the work), as may be caused by Contractor's operations. Contractor must maintain in place all utilities not shown on the drawings to be relocated or altered by others. Contractor must maintain in their relocated positions utilities which are relocated by others to avoid interference with structures and which cross the Project work. At the completion of the Work, Contractor must leave all utilities and appurtenances in a condition satisfactory to the owners and the City.

(8) Delays Caused by Failure to Relocate Utilities

(a) Where parties other than Contractor are responsible for the relocation of utilities, in accordance with these Plans and Specifications, and a delay in the Contractor's work is caused by the failure on the part of said parties to remove or relocate such utilities in time to prevent such delay, Contractor will not be entitled, as a result of such delay, or to damages or additional payments over and above the Contract price. In the event of such delays, Contractor will be entitled to an extension of time. The City will determine the length of such extension of time, with consideration as to the effect of the delay on the Project as a whole.

(b) To minimize delays caused by the failure of other parties to relocate utilities which interfere with construction work, Contractor, upon request to the City, may be permitted to temporarily omit that portion of work affected by the utility. Contractor must construct the portion thus omitted immediately following the relocation of the utility involved. Should the omitted portion of the work consist of concrete pipe, Contractor may complete said portion by constructing a field joint.

(c) Unless otherwise specified, where sewers, drainage water, gas or any other conduits and related structures and appurtenances which have been abandoned or which are to be abandoned as a result of the construction of this Project are found to interfere with

construction, the interfering portions will be removed and the remaining exposed portions sealed with either a wall of concrete not less than six inches (6”) thick. All salvable castings or steel parts which interfere with construction must be removed, and the Contractor must contact the owners and, if required, must deliver such materials f.o.b. to the owner’s trucks at the site of the work; otherwise, such material will become Contractor’s property to be disposed of away from the site of work.

(d) The cost of all such work must be included in the prices proposed for the various items of work, unless it is ascertained that the franchise of the former owner is such as to require it to bear such costs, in which event it will be Contractor’s responsibility to secure enforcement of said franchise if it so desires.

7.24 IN-USE OFF ROAD DIESEL-FUELED FLEETS REGULATION

Attention is directed to provisions of the California Code of Regulations Sections 2449, 2449.1, and 2449.2, Title 13, relating to In-Use Off-Road Diesel-Fueled Fleets (Regulation), issued by the California Air Resources Board (CARB). Contractor warrants that it shall be knowledgeable of and comply with the Regulation, including without limitation the matters contained in this Section, at all times prior to and during its work on the Project. The Regulation shall control in the event of any conflict between this Section and the Regulation.

A. Contracting Requirements.

(a) If the Project involves the use of vehicles subject to the Regulation, Contractor must obtain copies of the valid Certificates of Reported Compliance, as described in Regulation section 2449(n), for the fleet selected for the Contract and its listed subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.

(b) Contractor shall not enter into a contract with a fleet for which it does not have a valid Certificate of Reported Compliance for the fleet and Contractor’s listed Subcontractors, if applicable, prior to entering into a new or renewed contract with that fleet.

(c) The Certificates of Reported Compliance received by the Contractor for the Project must be retained for three years after the Project’s completion. Upon request by CARB, these records must be provided to CARB within five business days of the request.

(d) If the Project is considered to be an emergency operation, as defined in Regulation section 2449(c)(18), it is exempt from the requirements in Regulation section 2449(i)(1)-(3). Nevertheless, Contractor must still retain records verifying vehicles subject to the Regulation that are operating on the emergency operations project are actually being operated on the project for emergency operations only. These records must include a description of the emergency, the address or a description of the specific location of the emergency, the dates on which the emergency operations were performed, and an attestation by the fleet that the vehicles are operated on the project for emergency operations only.

B. Other Contractor Requirements.

(a) Between March 1 and June 1 of each year, Contractor must collect new valid Certificates of Reported Compliance for the current compliance year, as defined in Regulation section 2449(n), from all fleets that have an ongoing contract with the Contractor as of March 1 of that year. Contractor must not write contracts to evade this requirement.

(b) Contractor shall only allow fleets with valid Certificates of Reported Compliance on Contractor's job sites.

(c) If Contractor discovers that any fleet intending to operate vehicles subject to the Regulation for Contractor does not have a valid Certificate of Reported Compliance, as defined in Regulation section 2449(n), or if Contractor observes any noncompliant vehicles subject to the Regulation on Contractor's job site, then Contractor must report the required information to CARB when as provided and within the time period contained in in the Regulation

(d) Upon request by CARB, Contractor must immediately disclose to CARB the name and contact information of each responsible party for all vehicles subject to the Regulation operating at the job site or for Contractor.

(e) If applicable, Contractor shall prominently display signage for any project where vehicles subject to the Regulation as provided and within the time period contained in in the Regulation.

SECTION 8

PROSECUTIONS AND PROGRESS

8.1 SUBCONTRACTS

Contractor may sublet the Contract work only in accordance with the provisions of these Specifications and with the consent of City. Contractor will be responsible as the prime contractor to ensure that its subcontractors and material suppliers conform to all the provisions of these Specifications. If Contractor, after complying with these conditions, must sublet any portion of the proposed work to a subcontractor, Contractor will remain directly responsible to City for all work being performed by it or by any subcontractor under it, and all obligations imposed upon Contractor in the original Contract will be equally binding upon any subcontractor. City will deal directly with and make all payment to Contractor and will have no obligation at any time to pay a subcontractor for any work done. Contractor understands and acknowledges that the Subletting and Subcontracting Fair Practices Act (as set forth in the California Public Contracts Code) applies to this Contract, and Contractor agrees to comply with the terms of that Act.

8.2 ASSIGNMENT

Contractor may not assign the Contract or sublet it as a whole without the written consent of City. Contractor may not assign or permit the assignment of or any lien on any money due or to become due to it hereunder without the written consent of the City.

8.3 PROGRESS OF THE WORK

A. Time is of the essence in this Contract. Unless otherwise provided in the Special Provisions, the Contractor must begin work not later than fifteen (15) calendar days after the date of the Notice to Proceed, and Contractor shall prosecute the work with due diligence so as to complete the work within the time specified in the Special Provisions or within such extension of time as may be granted.

B. Should Contractor begin work in advance of receiving notice that the Contract has been approved as above provided, any work performed in advance of said date of approval will be considered as having been done by Contractor at its own risk and as a volunteer, unless the Contract is so approved.

8.4 CHARACTER OF WORKERS

A. Contractor will only employ skilled foremen and workers on work requiring special qualifications. When required by the Engineer, Contractor shall discharge from the Work any employee – whether employed by Contractor or any subcontractor – who is incompetent, disorderly, abusive, dangerous, insubordinate, or who in any way attempts to interfere with City employees in the inspection and supervision of the work And shall not employ them again without the consent of the City Engineer.

B. Any representative of Contractor who is proven to have deliberately given false information about the performance of any part of the work shall be discharged if so ordered by the City Engineer.

8.5 TEMPORARY SUSPENSION OF WORK

The City Engineer may order Contractor to suspend work when, in his/her opinion, the

conditions are such as to prevent the work being properly carried out. Such conditions may include: war, government regulations, labor disputes, strikes, fire, floods, adverse weather or elements, inability to obtain material, labor or equipment, required Extra Work, or other specific conditions or events as may be further described in the Specifications. When delay is caused by such an order, an extension of time may be granted when the conditions, in the opinion of the City Engineer, could not have reasonably been foreseen. Under no circumstances will Contractor be excused from performance or entitled to any extra compensation or reimbursement because of any such suspension.

8.6 TIME OF ESSENCE, LIQUIDATED DAMAGES, EXTENSION OF TIME BY CITY

A. Time is of the essence, and the parties acknowledge and agree that, (1) if all the Work called for under the Contract in all parts and requirements is not finished or completed by the date set forth in the Special Provisions, (2) circumstances and conditions as reflected by records of the City are such that material damage will be sustained by the City, and (3) it is and will be impracticable and extremely difficult to ascertain and determine the actual damage which City will sustain by reason of such delay, Contractor will pay to the City the sum stated in the Special Provisions per day for each and every calendar days' delay in finishing the work beyond the date prescribed; and Contractor agrees to pay said liquidated damages as herein provided. In case the same are not paid, Contractor agrees that the City may deduct the amount thereof from any monies due or that may become due to Contractor under the Contract.

B. It is further agreed that, in case the work called for under the Contract is not finished and completed in all parts and requirements by the date specified, City shall have the right to extend the time of completion or not, as may be deemed to best serve the interest of the City. If City decides to extend said time, City has the right to charge Contractor, its heirs, assigns or sureties and to deduct from the final payment for the work all or any part, as may be deemed proper, of the actual cost of engineering, inspection, superintendence, and other overhead expenses directly chargeable to Contractor and which accrue during the period of such extension, except that the cost of final surveys and preparation of a final estimate will not be included in such charges.

C. The time of completion will be extended and Contractor will not be assessed with liquidated damages during any delay beyond the day named for completion of the work caused by Acts of God or acts of a public enemy, fires, floods, epidemics, quarantine restrictions, strikes, and freight embargoes or delay of subcontractors due to such causes, provided Contractor must notify the Engineer in writing of any cause or causes of such delay within ten (10) days from the beginning of any such delay and must include in each monthly pay request the number of days of such delay that occurred in said pay period. Subject to entry of a judgment of a court of competent jurisdiction contrary to the decision of the Engineer's determination of the facts and cause of such delay, of the Engineer's determination of what constitutes a reasonable extension of time for completion will be final and conclusive. Failure to give notice of cause for such a time delay and failure of inclusion of the Contractor's request for an extension in the monthly pay request will be deemed a waiver of any right to an extension of time for such cause, subject only to impossibility of compromise therewith by Contractor.

D. Under no circumstances will Contractor be excused from performance or entitled to any extra compensation or reimbursement because of any delay occasioned by or in any way arising out of any Acts of God or acts of a public enemy, fires, floods, epidemics, quarantine restrictions,

strikes, and freight embargoes or delay of subcontractors due to such causes.

8.7 DEFAULT BY CONTRACTOR

A. If Contractor fails to begin delivery of material and equipment, to commence the Work within the time specified, to maintain the rate of delivery of material, to execute the Work in the manner and at such locations as specified, or to maintain the work schedule that will ensure City's interest, or, if Contractor fails to carry out the intent of the Contract, City may serve written notice upon Contractor and the surety on its Performance Bond demanding satisfactory compliance with the Contract.

B. The Contract may be canceled by the City without liability for damage, when in City's opinion Contractor is not complying in good faith, has become insolvent, or has assigned or subcontracted any part of the work without the City's consent. In the event of such cancellation, Contractor will be paid the actual amount due based on Contract unit prices or the lump sums proposal and the quantity of the work completed at the time of cancellation, less damages caused to City by Contractor's acts. Contractor, in having tendered a Proposal, will be deemed to have waived any and all claims for damages because of cancellation of the Contract for any such reason. If City declares the Contract canceled for any of the above reasons, City will serve written notice to that effect upon the surety. The surety must, within five (5) days, assume control and perform the work as successor to the Contractor.

C. If the surety assumes any part of the Work, it must take Contractor's place in all respects for that part, and City will pay the surety for all work performed by it in accordance with the Contract. If the Surety assumes the entire Contract, all money due to Contractor at the time of its default will be paid to the surety as the work progresses, subject to the terms of the Contract.

D. If the surety does not assume control and perform the work within five (5) days after receiving notice of cancellation, or fails to continue to comply, City may exclude the surety from the premises. City may then take possession of all material and equipment and complete the work by using City forces, by letting the unfinished work to another contractor, or by a combination of such methods. In that event, the cost of completing the Work will be charged against the Contractor and its surety and may be deducted from any money due or becoming due from the City. If the sums due under the Contract are insufficient for completion, Contractor or surety must pay to City all costs in excess of the sums due within five (5) days after the Notice of Completion resolution.

E. The remedies available to City under this subsection are cumulative and in addition to all other rights and remedies available to City under the law.

8.8 WORK AT NIGHT – Not Applicable

8.9 MAXIMUM LENGTH OF OPEN TRENCH

A. Except by special permission of the Engineer, the maximum length of any open trench where prefabricated pipe is used must not be greater than five hundred feet (500'), or the distance necessary to accommodate the amount of pipe installed in a single day, whichever is greater. The distance is measured as the collective length, including excavation, construction, pipe laying, backfilling, and compaction at any one location.

B. Except by special permission of the Engineer, the maximum length of open trench in any one location where concrete structures are poured in place will be that which is necessary to permit the uninterrupted progress of construction of the concrete structure, with construction pursued as follows: excavation, setting of reinforcing steel, pouring of floor slab, walls, and cover slab or arch are to follow each other without any one of these operations preceding the next nearest operation by more than two hundred feet (200').

C. Except by special permission of the Engineer, the maximum length of open trench in any one location where prefabricated concrete box conduit is used will be that which is necessary to permit the uninterrupted progress of construction of the concrete structure with construction pursued as follows: excavation, setting of reinforcing steel, pouring of floor slab, erection of side walls, erection of cover slab, and pouring of filler spaces are to follow each other without any one of these operations preceding the next nearest operation by more than two hundred feet (200').

8.10 LIMITED ACCEPTANCE OF WORK

At any time during the progress of the Work, City may, upon written notice to Contractor, take over and utilize the whole or part of the work, or appurtenance thereto which has been completed, giving, if desired, permits to utilize the same. Such use by City will constitute a limited acceptance of that part of the work so taken over and utilized which will relieve Contractor and its sureties from responsibility for any damage to, or defect in, that part of the work not inherent in its construction which may be caused by the use of such part by City or by property owners under its permits.

SECTION 9

MEASUREMENT AND PAYMENT

9.1 MEASUREMENT FOR PAYMENT

A. Measurement and calculations of quantities for payment will be as hereinafter specified for the particular material to be furnished or class of work to be performed, unless otherwise specified in the Special Provisions.

B. Unit prices or lump sum amounts proposals shall include full compensation for furnishing all labor, materials, tools, and equipment and doing all work shown on the Plans or stipulated in the Specifications for that particular item of work, unless otherwise specified in the Special Provisions.

C. When payment is specified to be made on the basis of weight, the weighing shall be done on certified platform scales, and Contractor must furnish the Engineer with the duplicate Certified Weighmaster's Certificate(s) showing the actual net weights. When weighing is done on certified scales at a mixing plant, duplicate weight delivery tickets will be accepted. One ticket must be furnished to the inspector at the plant and one ticket to the Engineer at the site of work. City will accept the certificates as evidence of the weight delivered.

9.2 SCOPE OF PAYMENT

Contractor hereby accepts the compensation as herein provided, in full payment for furnishing all materials, labor, tools, and equipment necessary to complete the Work and for performing all Work contemplated by the Contract; also for loss or damage arising from the nature of the Work, or from the action of the elements, except as provided above or from any unforeseen difficulties that may be encountered during the prosecution of the work until acceptance of the completed Work; also for all expenses incurred in consequence of the suspension or discontinuance of the work as herein specified; and for completing the work according to the Plans and Specifications. Neither the payment of any estimate nor of any retained percentage relieves Contractor of any obligation to make good any defective work or material.

9.3 DEDUCTIONS FROM PAYMENTS

City may, at its option and at any time, retain out of any amounts due to Contractor sums sufficient to cover any unpaid claims, provided that sworn statements of said claims must have been filed with the City.

9.4 SCHEDULE OF VALUES

A. Prior to Contractor's application for the first progress payment, Contractor must submit a detailed breakdown of its bid by scheduled Work items and/or activities, including coordination responsibilities and Project record document responsibilities. Where more than one subcontractor comprises the work of a work item or activity, the Schedule of Values must show a separate line item for each subcontract. Contractor must furnish such breakdown, of the total Contract sum, by assigning dollar values (cost estimates) to each applicable progress schedule network activity, which cumulative sum equals the total Contract sum. The format and detail of the breakdown must be as directed by City to facilitate and clarify future progress payments to Contractor for direct work under the Contract Documents. This breakdown will be referred to as the "Schedule of Values."

B. Contractor's overhead, profit, insurance, cost of bonds and/or other financing, as well as "general conditions costs," (e.g., site cleanup and maintenance, temporary roads and access, off-site access roads, temporary power and lighting, security and the like), must be prorated through all activities so that the sum of all the Schedule of Values line items equals Contractor's total Contract sum.

C. City will review the breakdown in conjunction with the progress schedule to ensure that the dollar amounts of this Schedule of Values are, in fact, fair-market cost allocations for the Work items listed. Upon City's favorable review, City will accept this Schedule of Values for use. City will be the sole judge of fair -market cost allocations.

D. City will reject any attempt to increase the cost of early activities(i.e., "front loading") which will result in a complete reallocation of monies until such front loading is corrected. Repeated attempts at front loading may result in suspension or termination of the Work or refusal to process progress payments, until such time as the Schedule of Values is acceptable to City.

9.5 PAYMENTS AND MONTHLY ESTIMATES

A. The City Engineer will, after the award of Contract, establish a monthly payment closure date. This date will serve to close each working month for which a monthly payment is payable during the life of the Contract. Contractor will, within five (5) days after the established monthly payment closure date each month in which work is being performed, make and deliver to the City two signed copies of monthly Contract payment applications stating the amount or percentage of work completed according to the Contract, as of the closure date established, estimated on the basis of the unit or lump sum Contract prices. No allowance will be made for materials and equipment not incorporated into the work. City will independently verify Contractor's monthly payment application and create a monthly progress payment request. City's determinations of the amounts or percentages of work completed are final.

B. Except as otherwise provided in a labor compliance program applicable to the Work or as otherwise required by City, concurrently with each application for payment, Contractor shall submit to City Contractor's and its subcontractors' certified payroll records required to be maintained pursuant to Labor Code Section 1776 for all labor performed during the pay periods ending in the period covered by the application for payment

C. City will prepare a warrant in an amount sufficient with all previous payments to make the aggregate ninety-five percent (95%) of the amount earned as certified, provided, however, that City at any time after fifty percent (50%) of the Work has been completed may make any of the remaining partial payments in full, less authorized deductions, if it finds that satisfactory progress is being made.

D. The partial payments made as the work progresses will be payments on account and will in no way be considered as an acceptance of any part of the Work or materials, nor will they govern the final estimate. Extra Work will be paid for as specified in Section 4.6. Payments for unit price items will be made upon the basis of the unit prices proposal and the quantities of work done, calculated as hereinafter specified, for each particular item of work. However, where several types of work are included in a unit price item, City will make partial payment for the portions of such work as are completed at the time of making the monthly estimates. City will pay all monies due to Contractor under the Contract on demand, prepared and approved as required by law, It is further

understood that any delay in the preparation, approval and payment of these demands will not constitute a breach of Contract on the part of City.

E. Payments for lump sum items will be based upon the lump sum proposal and the City's estimate as to the percentage of completion.

9.6 PAYMENT FOR EXTRA WORK

A. Payment for Extra Work will be made as provided by Section 4.6. Where payment is to be made on a force account basis, Contractor and the City's representative will compare records of Extra Work Contractor performed on a force account basis at the end of each day. City's representative will make copies of these records in duplicate and must be signed by both the inspector and Contractor's representative, one copy for Contractor and one copy for the City. Bills for Extra Work must be signed by Contractor and submitted to the City.

B. Each month Contractor will include in the monthly payment application an estimate of the amount or cost of Extra Work performed as included in approved Contract change orders. Contractor will submit, at the same time it returns the signed monthly payment application, a complete itemized statement of claim for all costs of Extra Work performed. Failure to include such a statement or claim for Extra Work for the pay period, or failure to deliver a complete statement for Extra Work in excess of that estimated by the City Engineer, will constitute a waiver on the part of Contractor to any claim for payment for Extra Work not therein included.

C. Method of payment for Extra Work approved as specified in Section 4 under unit price or lump sum amounts or at stipulated prices must be the same as that for Contract items as set forth in this Section.

D. Payment for Extra Work by Contractor's force account must be made in the following manner: Upon verification by the Engineer of Contractor's statement for force account work, a claim will be prepared upon the proper claims form for approval of the City Engineer and presentation to the City Manager or Assistant City Manager, for his/her approval and direction.

9.7 FINAL PAYMENT

A. Upon Contractor's completion and City's acceptance of the Work, and at least thirty-five (35) days after the date of recordation of the Notice of Completion, the City Engineer present Contractor's claim for the balance of the total Contract price, less any sums which may lawfully be retained under the Contract.

B. Unless qualified by Contractor under the procedure established in Section 9.5 hereof, the final progress payment request of the City Engineer shall be taken as conclusive evidence of the amount of work done under the Contract. If Contractor qualified its acceptance of the final progress payment and the parties fail to agree prior to the termination of the thirty-five- (35-) day period after recordation of Notice of Completion, the final payment shall not be delayed and shall be made in accordance with the City Engineer's determination, subject to further claim of Contractor and compliance by City with any applicable court order.

SECTION 10

CLAIMS BY CONTRACTOR

10.1 OBLIGATION TO FILE CLAIMS FOR DISPUTED WORK

A. Should it appear to Contractor that (1) the Work to be performed or any of the matters relative to the Contract Documents are not satisfactorily detailed or explained therein, (2) should any questions arise as to the meaning or intent of the Contract Documents, or (3) should any dispute arise regarding the true value of any work performed, work omitted, Extra Work that Contractor may be required to perform, time extensions, payments to Contractor during performance of this Contract, performance of the Contract, and/or compliance with Contract procedures, or (4) should Contractor otherwise seek extra time or compensation FOR ANY REASON WHATSOEVER, then Contractor shall first follow all other procedures set forth in the Contract Documents and Standard Specifications. If a dispute remains, then Contractor shall give written notice to City that expressly invokes this Section 10. City shall decide the issue in writing within fifteen (15) days; and City's written decision shall be final and conclusive. If Contractor disagrees with City's decision, or if Contractor contends that City failed to provide a decision timely, then Contractor's SOLE AND EXCLUSIVE REMEDY is to promptly file a written claim setting forth Contractor's position as required herein ("Claim").

B. Contractor shall present as its Claims all subcontractor, sub-subcontractor and supplier claims of any type, and prove them under the terms of the Contract Documents. City shall not be directly liable to any subcontractor, supplier, or any other person or organization, or to any surety for or employee or agent of any of them, for damages or extra costs of any type arising out of or resulting from the Project.

10.2 FORM AND CONTENTS OF CLAIM

A. Contractor's written Claim shall be submitted via registered mail or certified mail with return receipt requested, identify itself as a "Claim" under this Section 10, and include the following: (i) a narrative of pertinent events; (ii) citation to contract provisions; (iii) theory of entitlement; (iv) complete pricing of all cost impacts; (v) a time impact analysis of all time delays that shows actual time impact on the critical path; (vi) reasonable documentation supporting items (i) through (v); and (vii) a verification under penalty of perjury of the claim's accuracy. The Claim shall be submitted to City within thirty (30) calendar days of receiving City's written decision, or the date Contractor contends such decision was due, shall be priced like a change order, and must be updated monthly as to cost and entitlement if a continuing claim. Routine contract materials, for example, correspondence, RFI, change order requests, or payment requests shall not constitute a Claim. Contractor shall bear all costs incurred in the preparation and submission of a Claim.

B. Upon receipt of a Claim, City shall conduct a reasonable review of the Claim. Within forty-five (45) days, or such extended period as City and Contractor may agree, City shall provide Contractor with a written statement identifying what portion of the Claim is disputed and what portion is undisputed.

C. If City's governing body must approve City's response to the Claim and the governing body has not met within the forty-five- (45-) day (or extended) period, then City shall provide its written statement within three (3) days of the governing body's meeting.

D. City shall pay the undisputed portions of the Claim within (sixty) 60 days of the issuance of a written statement identifying an undisputed portion.

E. Claims must be submitted on or before the day of final payment. Claims not submitted before final payment are deemed waived.

F. Notwithstanding and pending the resolution of any Claim or dispute, Contractor shall diligently prosecute the disputed work to final completion in accordance with City's determination.

10.3 INFORMAL CONFERENCE AFTER CLAIM SUBMISSION

A. If Contractor disputes City's response to its Claim, including a failure to respond, it may submit via registered mail or certified mail, return receipt requested, a written demand for an informal conference to meet and confer for settlement of the issues in dispute. City shall schedule such a meet-and-confer conference within thirty (30) days for settlement of the dispute.

B. Within ten (10) days of the meet-and-confer conference, City shall provide Contractor with a written statement identifying the portion of the Claim that remains in dispute and the portion that is undisputed.

C. City shall pay the undisputed portions of the Claim within sixty (60) days of the issuance of a written statement identifying an undisputed portion.

10.4 MEDIATION

A. If the Contractor disputes City's statement provided under Paragraph 10.3(B), it shall lodge with the City Clerk a written objection to the City's written statement within three (3) days of the date on the City's statement of dispute. The parties shall then mutually agree to a mediator within ten (10) business days of the date of the City's written statement. If the parties cannot agree upon a mediator, each party shall select a mediator and those mediators shall select a qualified neutral third party to mediate with regard to the disputed portion of the claim. Each party shall bear the fees and costs charged by its respective mediator in connection with the selection of the neutral mediator.

B. Mediation shall be confidential and non-binding. Unless otherwise agreed, by the parties or as provided in this Paragraph 10.4, the mediation shall be pursuant to the construction mediation procedures of JAMS and held at the JAMS office closest to the Project site.

C. The cost of mediation shall be equally shared by all parties to the mediation. The parties shall, prior to the commencement of mediation upon notice of the other party, exchange relevant, non-privileged Project documents in compliance with Code of Civil Procedure Sections 2031.010, *et seq.* The parties may agree mutually to engage in additional discovery prior to mediation. Should the parties proceed with additional discovery, they shall, unless mutually agreed otherwise, comply with Code of Civil Procedure Sections 2019.010, *et. seq.* The mediator(s) will undertake to resolve any discovery disputes relating to the mediation.

D. For Claims under three hundred seventy-five thousand dollars (\$375,000), unless the parties agree otherwise in writing, mediation pursuant to this Paragraph 10.4 shall excuse the mediation obligation under Public Contract Code Section 20104.4(a).

E. If mediation is unsuccessful, the parts of the Claim remaining in dispute shall be

resolved as otherwise provided by the Contract and applicable law.

F. Following receipt of a Claim, the parties may mutually agree, in writing, to waive the mediation requirements of this Paragraph 10.4 and proceed to the commencement of a civil action.

G. All statutes of limitation shall be tolled from the date of the demand for mediation until a date two (2) weeks following the mediation's conclusion.

10.5 OTHER MATTERS

A. The provisions of this Section 10 constitute a non-judicial claim settlement procedure that, pursuant to Government Code Section 930.2, shall constitute a condition precedent to submission of a valid Government Code claim. Contractor shall bear all costs incurred in the preparation, submission and administration of a claim. Any Government Code claims presented must affirmatively indicate Contractor's prior compliance with the claims procedure herein and the previous dispositions under Paragraphs 10.3 and 10.4 above of the claims asserted. No suit may be brought against City arising out of or in connection with the Project unless and until Contractor presents to City a statutory Government Code claim, in accordance with Government Code Sections 910, *et seq.* Pursuant to Government Code Section 930.2, the one- (1-) year period in Government Code Section 911.2 shall be reduced to one hundred fifty (150) days from either accrual of the cause of action, substantial completion or termination of the contract, whichever occurs first; in all other respects, the Government Code shall apply unchanged.

B. Failure to submit and administer claims as required in this Section 10 shall waive Contractor's right to claim on any specific issues not included in a timely submitted claim. Claim(s) or issue(s) not raised in a timely protest and timely claim submitted under this Section 10 may not be asserted in any subsequent litigation, Government Code claim, or legal action.

C. Contractor shall submit subcontractor claims in the same manner as other Claims. In the event a subcontractor (on behalf of the subcontractor or a lower-tier subcontractor) requests in writing that Contractor in writing to present a Claim to the City and furnishes reasonable documentation supporting the Claim, Contractor shall, within forty-five 45 days of receipt of the written request, notify the subcontractor in writing as to whether the Contractor presented the claim to City and, if the Contractor did not present the Claim, provide the subcontractor with a statement of the reasons for not doing so.

D. All waivers or modifications of this Section 10 may only be made in a writing signed by City and Contractor and approved as to form by legal counsel for both; oral or implied modifications shall be ineffective.

E. Any failure by City to respond within any time frame contained in Paragraphs 10.2 through 10.5 of this Section shall result in the Claim being deemed rejected in its entirety. No failure to meet a time requirement shall constitute an adverse finding with regards to the merits of the Claim or the responsibility or qualifications of the Contractor.

10.6 COMPLIANCE WITH STATUTORY PROCEDURES

The foregoing provisions of Paragraphs 10.2 through 10.5 are intended to comply with

Public Contract Code Section 9204 and, to the extent applicable, Public Contract Code Section 20104, *et seq.* In the event of any conflict between these provisions and the Public Contract Code, the applicable Public Contract Code provision will apply.

PART 4 – TECHNICAL SPECIFICATIONS



PROJECT DESIGN MANUAL

Bid Set SPECIFICATIONS

City of Rohnert Park

Honeybee Pool
Roof Replacements

March 10, 2024

City of Rohnert Park

Vanessa Garrett
P.E. #CE84141
City Engineer

Date

STRATA 
ARCHITECTURE PLANNING MANAGEMENT

PO Box 1207
Sonoma, CA 95476
707.935.7944

SECTION 00 00 02

PROJECT DIRECTORY

Project: Honeybee Pool Roof Replacements

Location: 1170 Golf Course Drive, Rohnert Park, California 94928

Owner: City of Rohnert Park
600 Enterprise Dr.
Rohnert Park, California 94928
Terrie Zwillinger, Project Coordinator
Department of Public Works
Phone: (707) 588-3331
tzwillinger@rpcity.org

Architect: STRATAa|p
PO Box 1207
Sonoma, California 95476
Bennett Martin, AAIA, Principal
Bradley Johnson, AIA, Project Architect
Michael Kurty, Project Management
Phone: (707) 935-7944
bmartin@strataap.com
bjohnson@strataap.com
mkurty@strataap.com



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The specification sections in this project manual may either be in the form of written specifications or product literature. Whether the section contains product literature or written specifications, it is assumed that the work of that section shall be performed in accordance with industry standards and applicable codes. Regardless of how the specification sections are provided they are part of the Contract Documents and as such are complementary, and what is required by one shall be as binding as if required by all.

DIVISION 1
GENERAL REQUIREMENTS

SECTION 01 11 00
WORK SUMMARY

PART 1 - GENERAL

1.01 DESCRIPTION

- A. The Bid Documents for this project include the following:
 - 1. Site Drawings and Photographs, and
 - 2. Project Manual.

1.02 SCOPE OF WORK

- A. The Contractor and his Subcontractors shall furnish all labor, materials, equipment, transportation, supervision, permits and incidents required to safely and legally perform the work for the /w—Roof Replacement project at Honeybee Pool complex including, but not limited to:
 - 1. Demolition of existing roof.
 - 2. Installation of new roofing and associated accessories.
 - 3. Exterior painting (as needed).
- B. It is the intent of the Bid Documents to include everything necessary and required for proper completion of the work. All work is to be performed as required to carry out the intent whether or not each individual items is specifically stated.
- C. All work shall be performed in accordance with Bid Documents, industry standards, state and local requirements, federal requirements, and fire official requirements.

CONTRACTOR RESPONSIBILITIES

1.03

- A. Contractor shall carefully compare and study the project, specifications, drawings and all other applicable Bid Documents. No “extras” shall be allowed for any errors, discrepancies or omissions that contractor failed to report to the Owner prior to award of the contract.
- B. Contractors shall tour the project sufficiently, prior to the bid, to adequately bid the project, taking into consideration project delays and slower production due to compliance with all applicable code required inspections.
- C. Failure to examine the project building and the site and to become familiar with the existing conditions shall not constitute cause for a compliant or claim for extra payment. Accept project site as it exists.
- D. Contractor shall notify the Owner of any condition not in conformance with the project requirements.

1.04 PROJECT DESCRIPTION

- A. Roofing replacement.

END OF SECTION

SECTION 01 31 13
COORDINATION

PART 1 GENERAL

1.01 SUMMARY

- A. Section Includes: Provision of coordination of the Work of the Contract.
- B. Related Sections: The completion of the work described in this Section may require work in or coordination with other Sections of these specifications. The Contractor and the sub-contractor shall be responsible for identifying and including all related work in other Sections of these specifications and/or drawings necessary for a complete installation of the work described in this Section. These related Sections include but are not limited to the following:
- C. Drawings and general provisions of the Contract, including Contract Documents, Special Provisions and Standard Specifications apply to this Section.

1.02 GENERAL COORDINATION

- A. Contractor shall be responsible for all project coordination.
- B. Coordinate schedules, submittals, and work of the various trades to ensure efficient and orderly sequence of installation of construction, with provisions for accommodating items to be installed later. Coordinate the work among the Specifications and Drawings. Work shown on any drawing or specification is required by the Contract irrespective of the trade subdivision. Contractor shall require each trade subcontractor to review all other subdivisions of the documents for related work and shall coordinate the subcontracts accordingly.
- C. Require all parties involved in the performance of the Work to cooperate in the overall coordination of the work under the direction of the Contractor. Each party, when requested to do so, shall furnish information concerning its portion of the work, and shall respond promptly and reasonably to the decisions and requests of persons designated with coordination, supervisory, administrative, or similar authority.
- D. The Drawings use graphic symbols to show certain physical relationships of the various elements and systems and their interfacing with other elements and systems. Establishing and coordinating the actual physical relationships is the responsibility of the Contractor. Layout and arrange all elements to contribute to safety and efficiency while maintaining the intent of the design. Before work proceeds in areas of potential conflict for installing different components of the work, Contractor shall prepare supplementary drawings for review by the Owner and resolve the conflict.
- E. Coordinate completion and cleanup Work of various trades in preparation for the Completion.

1.03 SUBCONTRACT COORDINATION

- A. Coordinate the Work and do not delegate responsibility for coordination to any Subcontractor.
- B. Anticipate the interrelationship of all Subcontractors and their relationship with the Work.
- C. Resolve differences or disputes between Subcontractors concerning coordination, interference, or extent of work between sections of the specifications. Contractor's decisions, if consistent with the Contract Document requirements, shall be final.
 - 1. If the Architect is required to resolve disputes between the Contractor and his Subcontractors, all associated costs will be billed directly to the Contractor as Additional Services by the Architect.
- D. Coordinate the work of Subcontractors so that their portions of the work are performed in a manner that minimizes interference with the progress of the Work.

1.04 ADMINISTRATION

- A. General: The Contractor shall prepare a written memorandum on required coordination activities. Include such items as required notices, reports and attendance at meetings. Distribute this memorandum to each trade performing work at the project site. Prepare similar memorandum for separate contractors where interfacing of their work is required.

- B. Coordination Meetings: Conduct general project coordination meetings with Subcontractors at least weekly at regularly scheduled times convenient for all parties involved. The coordination meetings shall be held far enough in advance of a particular Subcontractors work so as to avoid conflict with the work of other trades. Request representation at each meeting by every party currently involved in coordination or planning for the work of the entire project. Keep the Owner informed about coordination meetings. Conduct meetings in a manner which will resolve coordination problems. Record results and minutes of each meeting and distribute copies to everyone in attendance and to the Owner. Owner may attend weekly jobsite meetings with subcontractors.
- C. Superintendent: Provide a full-time Superintendent experienced in administration and supervision of building construction. This Superintendent shall be authorized to act as general coordinator of interfaces between units of work. This Superintendent shall be on site, during the construction period as needed to coordinate and supervise the work. Construction coordination shall be his/her principal duty.
 - 1. For the purpose of this provision, "Interface" is defined to include scheduling and sequencing of work, sharing of access to work spaces, installations, protection of each other's work, cutting and patching, tolerances, cleaning, selections for compatibility, preparation of coordination drawings, inspections, tests, and temporary facilities and services.

1.05 COORDINATION WITH WORK PERFORMED BY OWNER UNDER SEPARATE CONTRACTS

- A. The Owner will be performing work related to the project under separate contracts, including but not limited to vehicle lifts and exterior signage.
- B. Contractor is responsible for coordinate with the work of other contractors, including scheduling and work necessary for other contractors to perform their work including but not limited to block outs, bracing, blocking, reinforcement, and electrical and mechanical connects.
- C. Use Coordination Drawings of structural, mechanical, and electrical Work, together with shop drawings and layout drawings of affected Work to check, coordinate and integrate the Work to prevent interferences.
- D. Contractor shall coordinate shop drawings to include any and all penetrations of framing members and finish material resulting from the coordination of and with the work of the Owner's mechanical and electrical subcontractors.
- E. Do not install any finishes that may impact the work of Owner's Contractor's without prior review and approval of Architect.

1.06 COORDINATION WITH PUBLIC UTILITY AND SAFETY PROVIDERS

- A. These providers include, but are not limited to: The local Fire Department, electrical, gas, internet and telephone providers, and the City of Sonoma.
- B. Contractor is responsible for coordination with all utility service that may be affected by the project.
- C. Public utility hookup fees shall be paid by the Owner.

1.07 COORDINATION WITH CITY STAFF AND PUBLIC

- A. Contractor to coordinated activities so as to not disrupt the functioning of the building and the use by city staff and the public. Contractor is to ensure the safety of the city staff and the public for the duration of the project.

END OF SECTION

SECTION 01 31 21
PROJECT MEETINGS

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Included: To enable orderly review during progress of the Work, and to provide for systematic discussion of problems, the Architect will conduct project meetings throughout the construction period.
- B. Related Work Described Elsewhere: The Contractor's relations with his subcontractors and materials suppliers, and discussions relative thereto, are the Contractor's responsibility and are not part of project meetings contents.

1.02 QUALITY ASSURANCE

- A. Persons designated by the Contractor to attend and participate in the project meetings shall have all required authority to commit the Contractor to solutions agreed upon in the project meetings.

1.03 SUBMITTALS

- A. Agenda Items: To the maximum extent practicable, advise the Architect at least 24 hours in advance of project meetings regarding all items to be added to the agenda.
- B. Minutes: The Contractor will compile minutes of each project meeting and will furnish copies to the Owner and Architect. The Contractor may make and distribute such other copies as he wishes.

PART 2 - PRODUCTS
NOT USED

PART 3 - EXECUTION

3.01 MEETING SCHEDULE

- A. Except as noted below for Preconstruction Meeting, project meetings will be held weekly. Coordinate as necessary to establish mutually acceptable schedule for meetings.

3.02 MEETING LOCATION

- A. To the maximum extent practicable, meetings will be held at the job site.

3.03 PRE-CONSTRUCTION MEETING

- A. Preconstruction Meeting will be scheduled within ten days after the Owner has issued Notice to Proceed. Provide attendance by authorized representatives of the Contractor and all major subcontractors. The Architect will advise other interested parties and request their attendance.
- B. Minimum Agenda: Distribute data on and discuss:
 - 1. Organizational arrangement of Contractor's forces and personnel and those of subcontractors, materials suppliers and Architect.
 - 2. Channels and procedures for communications.
 - 3. Construction Schedule, including sequence of critical work.
 - 4. Contract Documents, including distribution of required copies of original Documents and revisions.
 - 5. Processing of Shop Drawings and other data submitted to the Architect for review.
 - 6. Processing of field decisions and Change Orders.
 - 7. Rules and regulations governing performance of the work.
 - 8. Procedures for safety and first aid, security, quality control, housekeeping, and other related matters.

3.04 PROJECT MEETINGS

A. Attendance: To the maximum extent practicable, assign the same person to represent the Contractor at project meetings throughout progress of the work. Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspects of the Work are involved.

B. Minimum Agenda:

Review, revise as necessary and approve minutes of previous meeting.

Contractor shall provide:

Current Weekly Report
Three-Week Look Ahead Schedule

Review progress of the Work since last meeting, including status of submittals for approval.

Identify problems which impede planned progress.

Develop corrective measures and procedures to regain planned schedule.

Complete other current business.

END OF SECTION

SECTION 01 32 16
PROJECT SCHEDULE

PART 1- GENERAL

1.01 DESCRIPTION

- A. Work Included: To assure adequate planning and execution of the work so that the work is completed within the number of calendar days allowed in the Contract, and to assist the Owner and Architect in appraising the reasonableness of the proposed schedule and in evaluating progress of the work, prepare and maintain the schedules as described in this Section.
- B. Definition: "Day" used throughout the Contract, unless otherwise stated, means "calendar day".

1.02 QUALITY ASSURANCE

- A. Reference Standards: Perform all data preparation, analysis, charting, and updating in accordance with all recommendations contained in the current edition of "CPM In Construction" manual of Associated General Contractors, or in accordance with other standards approved by the Owner and Architect.
- B. Reliance upon approved schedule:
 - 1. The Project schedule as approved by the Owner and Architect will be an integral part of the Contract, and will establish interim contract completion dates for the various activities.

1.03 SUBMITTALS

- A. General: Comply with the provisions of Section 01 33 24.
- B. All measurements shall be in U.S. customary units.
- C. Preliminary Analysis: Within ten days after receipt of Notice to Proceed, submit one reproducible copy and four prints of a preliminary Project Schedule, plus four prints of proposed forms for Materials Status Reports, prepared in accordance with Part Three of this Section.
- D. Periodic Reports:
 - 1. On the first working day of each month following submittals described above, submit four prints of the Project Schedule updated as described in Part Three of this Section.
 - 2. Accompanying each periodic submittal of Project Schedule submit four prints of the Materials Status Reports updated as described in Part Three of this Section.

PART 2 - PRODUCTS

2.01 PROJECT ANALYSIS

- A. Diagram:
 - 1. Graphically show the order and interdependence of all activities necessary to complete the Work, and the sequence in which each activity is to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all Subcontractors whose work is shown on the diagram. Activities shown on the diagram shall include, but are not necessarily limited to:
 - a. Project mobilization;
 - b. Submittals and approvals of Shop Drawings and Samples;
 - c. Procurement of equipment and critical materials;
 - d. Fabrication of special material and equipment, and their installation and testing;
 - e. Final clean up;
 - f. Final inspection and testing;
 - g. All activities by the Owner and Architect that affect progress, required dates for completion, or both, for all and for each part of the Work.

2. The detail of information shall be such that duration times of activities shall normally range from one to 15 days. The selection and number of activities shall be subject to the Owner's and Architect's approvals.
3. Show on the diagram, as a minimum for each activity, preceding and following event numbers, description of each activity, cost, and activity duration in calendar days. Submit diagram on a sheet 30" high by the width required.

B. Mathematical Analysis:

1. Furnish a mathematical analysis of the diagram by manual or computer aided means, including a tabulation of each activity. Show the following information as a minimum for each activity:
 - a. Preceding and following event number;
 - b. Activity description;
 - c. Estimated duration of activities;
 - d. Earliest start date (by calendar date);
 - e. Latest start date (by calendar date);
 - f. Earliest finish date (by calendar date);
 - g. Latest finish date (by calendar date);
 - h. Slack or float (in calendar days);
 - i. Monetary value of the activity;
 - j. Percentage of activity completed;
 - k. Contractor's earnings based on portion of activity completed.
2. The means used in making the mathematical analysis shall be capable of compiling the total value of completed and partially completed activities, and be capable of accepting modifications approved for time and logic adjustment.

C. Periodic Reports:

1. If computer-aided means are used, list the activities in computer printout sorts as follows:
 - a. By the preceding event number from lowest to highest, and then in order of the following event number;
 - b. By the amount of float, then in order of preceding event numbers, and then in order of succeeding event numbers;
 - c. In order of preceding event numbers, and then in order of succeeding event numbers (show the dollar amount and dollars spent to date for each activity);
 - d. Other sorts requested by the Architect, for which the Contractor will be reimbursed in accordance with the General Conditions provisions for "Changes".
2. If computer-aids are not used, provide equivalent information to the approval of the Owner and Architect.

2.02 MATERIALS STATUS REPORTS

- A. Format: The Contractor's standard materials status report form will be acceptable if, in the Owner's and Architect's judgments, it provides sufficient pertinent data to determine that materials procurement flow is adequate for all needs of the Work.
- B. Content: Show at limit the following information:
 1. Item description, listed in accordance with Specifications Section number in which the item is called for;
 2. Purchase Order number and date of issue;
 3. Vendor name;
 4. Date shipped, and shipping means utilized;
 5. Estimated date of arrival at job site;
 6. Actual date of arrival at job site and receiving report number.

- C. Data Processing: Process the data by manual or computer-aided methods, but to a degree of promptness and accuracy assuring complete display of all pertinent current information at date of each periodic report.

PART 3 - EXECUTION

3.01 PRELIMINARY ANALYSIS

- A. Contents:
 - 1. Show all activities of the Contractor under this Work for the period between receipt of Notice to Proceed and submittal of Project Schedule required under Article 1.03 above.
 - 2. Show the Contractor's general approach to remainder of the Work.
 - 3. Show cost of all activities scheduled for performance before submittal and approval of the Project Schedule.
- B. Submittal: Submittal shall be in accordance with Article 1.03 above.

3.02 PROJECT SCHEDULE

- A. As soon as practicable after receipt of Notice to Proceed, complete the Project analysis described in Articles 2.1 above, in preliminary form. Meet with the Owner and Architect, review contents of proposed Project Schedule, and make all revisions agreed upon. Submit in accordance with Article 1.03 above.

3.03 MATERIALS STATUS REPORT

- A. As soon as practicable after receipt of Notice to Proceed, meet with the Owner and Architect, review contents of proposed Materials Status Reports, and make all revisions to format agreed upon.

3.04 PERIODIC REPORTS

- A. Project Schedule:
 - 1. Contents:
 - a. Report actual progress by updating the mathematical analysis.
 - b. Note on the summary report, or clearly show on a revised issue of affected portions of the detailed diagram, all revisions causing changes in the detailed program.
 - c. Revise the summary report as necessary for clarity.
 - d. Show activities or portions of activities completed during the reporting period, and their actual value.
 - e. State the percentage of Work actually completed as scheduled as of the report date, and the progress along the critical path in terms of days ahead of or behind the allowable dates.
 - f. If the Work is behind schedule, also report progress along other paths with negative slack.
 - g. Include a narrative report which shows, but is not necessarily limited to:
 - h. A description of the problem areas, current and anticipated;
 - i. Delaying factors, and their impact;
 - j. An explanation of corrective actions taken or proposed.
 - 2. Show the date of latest revision. Submit in accordance with the provisions of Article 1.03 above.
- B. Materials Status Report:
 - 1. On the letter of transmittal accompanying periodic reports, on an accompanying summary sheet, or by other means acceptable to the Owner and Architect, clearly indicate those items the deliveries of which are critically overdue or otherwise hazardous to maintenance of the approved schedule.
 - 2. Submit in accordance with the provisions of Article 1.03 above.

3.05 REVISIONS

- A. Make only those revisions to approved Project Schedule and approved Materials Status Reports as are approved in advance by the Owner and Architect.

END OF SECTION

SECTION 01 32 33
APPLICABLE STANDARDS

PART 1 - GENERAL

1.01 DESCRIPTION

A. Work Included:

1. Throughout the Contract Documents, reference is made to codes and standards which establish qualities and types of workmanship and materials, and which establish methods for testing and reporting on the pertinent characteristics.
2. Where materials or workmanship are required by these Contract Documents to meet or exceed the specifically named code or standard, it is the Contractor's responsibility to provide materials and workmanship which meet or exceed the specifically named code or standard.
3. It is also the Contractor's responsibility, when so required by the Contract Documents or by written request from the Owner and Architect, to deliver to the Owner and Architect all required proof that the materials or workmanship, or both, meet or exceed the requirements of the specifically named code or standard. Such proof shall be in the form requested in writing by the Owner and Architect and generally will be required to be copies of a certified report of tests conducted by a testing agency approved for that purpose by the Owner and Architect.

B. All measurements shall be in imperial units.

C. Related Work Described Elsewhere: Specific naming of codes or standards occurs on the Drawings and in other Sections of these Specifications.

1.02 QUALITY ASSURANCE

Familiarity with Pertinent Codes and Standards: In procuring all items used in this Work, it is the Contractor's responsibility to verify the detailed requirements of the specifically named codes and standards and to verify that the items procured for use in this Work meet or exceed the specified requirements.

Rejection of Non-Complying Items: The Owner and Architect reserves the right to reject items incorporated into the Work which fail to meet the specified minimum requirements. The Owner and Architect further reserves the right, and without prejudice to other recourse the Owner and Architect may take, to accept non-complying items subject to an adjustment in the Contract Amount as approved by the Owner and Architect.

Applicable Standards listed in these Specifications include, but are not necessarily limited to, standards promulgated by the following agencies and organizations:

ASSHTO = American Association of State Highway and Transportation Officials, 341 National Press Building, Washington, D.C. 20004.

ACI = American Concrete Institute, Box 19150, Redford Station, Detroit, Michigan 48129.

AISC = American Institute of Steel Construction, Inc., 1221 Avenue of the Americas, New York, New York 10020.

ANSI = American National Standards Institute (successor to USASI and ASA), 1430 Broadway, New York, New York 10018.

ASTM = American Society for Testing and Materials, 1916 Race Street, Philadelphia, Pennsylvania 19103.

AWS = American Welding Society, Inc., 2501 N.W. 7th Street, Miami, Florida 33125.

AWWA = American Water Works Association, Inc., 6666 West Quincy Avenue, Denver, Colorado 80235.

CRSI = Concrete Reinforcing Steel Institute, 228 North LaSalle Street, Chicago, Illinois 60610.

CS = Commercial Standard of NBS, U.S. Department of Commerce, Government Printing Office, Washington, D.C. 20402.

FGMA = Flat Glass Marketing Association, 3310 Harrison, Topeka, Kansas 66611.

NAAMM = National Association of Architectural Metal Manufacturers, 1033 South Boulevard, Oak Park, Illinois 60302.

NEC = National Electrical Code (see NFPA).

NEMA = National Electrical Manufacturers Association, 155 East 44th Street, New York, New York 10017.

NFPA = National Fire Protection Association, 470 Atlantic Avenue, Boston, Massachusetts 12210.

SDI = Steel Deck Institute, 135 Addison Avenue, Elmhurst, Illinois 60125.

SSPC = Steel Structures Painting Council, 4400 5th Avenue, Pittsburgh, Pennsylvania 15213.

TCA = Tile Council of America, Inc., P.O. Box 326, Princeton, New Jersey 08540.

UL = Underwriters' Laboratories, Inc., 207 East Ohio Street, Chicago, Illinois 60611.

CBC = 2013 California Building Standard Code.

ICC = International Code Council - 5203 Leesburg Pike, Suite 600; Falls Church, VA 22041-3401.

Fed. Specs. and Fed Standards: Specifications Sales (3FRI), Bldg. 197, Washington Navy Yard, General Services Administration, Washington, D.C. 20407.

END OF SECTION

SECTION 01 33 24
SUBMITTALS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Work included:
 - 1. Make submittals required by the Contract Documents, and revise and resubmit as necessary to establish compliance with the specified requirements.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.
 - 2. Individual requirements for submittals also may be described in pertinent Sections of these Specifications.
 - 3. See General Conditions for submittal of schedules, cost breakdown, subcontractors' list, etc.
- C. Work not included:
 - 1. Unrequired submittals will not be reviewed by the Architect.
 - 2. The Contractor may require his subcontractors to provide drawings, setting diagrams, and similar information to help coordinate the Work, but such data shall remain between the Contractor and his subcontractors and will not be reviewed by the Architect.

1.2 QUALITY ASSURANCE

- A. Coordination of submittals:
 - 1. Prior to each submittal, carefully review and coordinate all aspects of each item being submitted.
 - 2. Verify that each item and the submittal for it conform in all respects with the specified requirements.
 - 3. Shop drawings shall be submitted by the Contractor. Shop drawings shall be stamped and signed by the Contractor showing that they have been reviewed and approved by him/her before being sent to the Architect.
 - a. Details shall be identified by reference number to sheet and detail, schedule or room numbers on the Contract Drawings.
 - b. Submittals that have not been reviewed by the Contractor and do not bear a stamp of review by the Contractor will be returned and will not be reviewed by the Architect.
 - 4. All Shop Drawings and material submittals shall be numbered in sequence of submittal. Resubmittals shall receive a new number.
 - 5. Fabrication of work shall not be started or any parts shipped or transported to the job site prior to the review of shop drawings by the Architect, and compliance with the Contract Documents has been verified.
 - 6. The Contractor shall assume full responsibility for coordinating and verifying schedules, quantities and dimensions shown on Shop Drawings. The Architect assumes no responsibility for checking schedules, quantities or dimensions.
- B. Substitutions:
 - 1. The Contract is based on the standards of quality established in the Contract Documents. Substitutions will be considered only when substantiated by the Contractor's submittal of required data within 5 calendar days after the Notice to Proceed. Only one substitution request will be considered for each specified item. Unless noted otherwise in a specific Section of the Specifications after 5 calendar days after the Notice to Proceed it will be assumed all items are to be as specified in these documents and substitutions may not be accepted by the Architect. It shall be the Contractor's responsibility to notify the Architect in writing, of any deviations in the submittals from the requirements of the Contract Documents.
 - 3. The following products do not require further approval except for interface within the Work:
 - a. Products specified by reference to standard specifications such as ASTM and similar standards.
 - b. Products specified by manufacturer's name and catalog model number.
 - c. The Contractor, however, shall submit to the Architect a letter stating that the products submitted will be as stated in a. and b. above.

4. Do not substitute materials, equipment, or methods unless such substitution has been specifically approved in writing for this Work by the Architect.
- C. Time for review of substitutions:
1. In the interest of time, substitutions are not encouraged unless absolutely unavoidable. When submitting an item for substitution for a specified item, submit all pertinent data required to enable the Architect to make an accurate and timely evaluation. Incomplete submittals or insufficient data will be cause for the submittal to be rejected.
 2. Requests for extension of the time directly or indirectly related to approval of substituted items will not be granted.
 3. Additional review time by the Architect caused by a substitution shall in no way be charged as a delay to the Project.
 4. It shall be the sole responsibility of the Contractor to avoid delays through the process of substitution.
- D. "Or equal":
1. Where the phrase "or equal," or "as approved equal," occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be considered as equal unless the item has been specifically so reviewed by the Architect and deemed in conformance with design intent and quality established for this Work.
 2. The decision of the Architect shall be final.
 3. If submittals on "or equal" items are not made within the prescribed time or are incomplete, then the item or material originally specified shall be supplied.

1.3 SUBMITTALS

- A. Make submittals of Shop Drawings, Samples, substitution requests, and other items in accordance with the provisions of this Section.
- B. Submittals shall include all technical and performance data on the product or material required for the Architect to make a fair evaluation, including physical samples if deemed necessary by the Architect.
- C. Incomplete submittals will be returned to the Contractor and will not be reviewed by the Architect. The Contractor shall be solely responsible for any delays caused by making incomplete submittals.
- D. For purposes of uniformity, only one make and/or brand of material will be accepted for each type of material used. All electrical material shall be listed by Underwriters Laboratories, Inc., and shall meet their requirements and bear their label.

PART 2 - PRODUCTS

2.1 SHOP DRAWINGS

- A. Scale and measurements: Make Shop Drawings accurately to a scale sufficiently large to show all pertinent aspects of the item and its method of connection to the Work.
- B. Types of prints required:
 1. Submit Shop Drawings in the form of an electronic PDF file or hard copy.
- C. Review comments of the Architect will be shown on the transparency when they are returned to the Contractor. The Contractor may make and distribute such copies as are required for his purposes.
- D. Review of Shop Drawings and submittals is only for general conformance with the design concept, colors, texture of material and general compliance with the Contract Documents. Any action indicated or shown is subject to the requirements of the Contract Drawings and Specifications. Review of Shop Drawings is not intended to modify or change in any way the Contract Documents (any deviations shall be separately stated in writing). The Contractor shall be solely responsible for fabrication processes and methods, field dimensions and quantities.

2.2 MANUFACTURERS' LITERATURE

- A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly show which portions of the contents is being submitted for review.
- B. Submit the number of paper copies which are required to be returned, plus three copies which will be retained by the Architect or submit one electronic copy in PDF format to the Owner and Architect.

2.3 SAMPLES

- A. Provide Sample or Samples identical to the precise article proposed to be provided. Identify as described under "Identification of submittals" below.
- B. Number of Samples required:
 - 1. Unless otherwise specified, submit Samples in the quantity, which is required to be returned, plus one which will be retained by the Architect.

2.4 COLORS AND PATTERNS

- A. Unless the precise color and pattern is specifically called out in the Contract Documents, and whenever a choice of color or pattern is available in the specified products, submit accurate color and pattern charts to the Architect for selection.
- B. Within 10 days from the Notice to Proceed, General Contractor shall submit to the Architect a list of manufacturers of all products or materials requiring color selections, which will be used on the job. Samples of the manufacturer's complete color range shall also be submitted at this time. Color selections will not be made by the Architect until color samples for all items to be selected have been submitted. The Architect will not make partial color selections.
- C. Failure of the Contractor to submit all color charts for all products or materials requiring color selections within 10 days, thus requiring additional time for the Architect to make selections, shall not be grounds for a delay claim.
- D. Allow 10 working days after the receipt of all color lists of all products or materials requiring color selections for the Architect to make color selections.
- E. All concrete colors including the natural concrete color shall have 3'x3' samples poured in place on site. Review and approval by the Architect is required for all concrete colors and finish prior to final placement.

PART 3 - EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS

- A. Each submittal shall be numbered or named consecutively by the Contractor and all documentation shall refer to that number.
 - 1. When material is resubmitted for any reason, transmit it under a new letter of transmittal and with a new transmittal number.
 - 2. On resubmittals, cite the original submittal number for reference.
- B. Accompany each submittal with a letter of transmittal or e-mail showing all information required for identification and checking.
- C. On at least the first page of each submittal, and elsewhere as required for positive identification, show the submittal number in which the item was included.
- D. Maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times. Make the submittal log available to the Architect for his review upon request.

3.2 GROUPING OF SUBMITTALS

- A. Unless otherwise specified, make submittals in groups containing all associated items to assure that information is available for checking each item when it is received.
 - 1. Partial submittals may be rejected as not complying with the provisions of the Contract.
 - 2. The Contractor may be held liable for delays so occasioned.

3.3 TIMING OF SUBMITTALS

- A. Make submittals far enough in advance of scheduled dates for installation to provide time required for reviews, for securing necessary approvals, for possible revisions and resubmittals, and for placing orders and securing delivery. The Contractor will be solely responsible for any delays caused by not making submittals in time for proper review.
- B. In scheduling, allow Sufficient time for review by the Architect following his receipt of the submittal as set forth in the General Conditions.

3.4 ARCHITECT'S REVIEW

- A. Review by the Architect does not relieve the General Contractor from responsibility for errors which may exist in the submitted data nor does review by the Architect relieve the Contractor from responsibility or in any way change the original Contract.
- B. Revisions:
 - 1. Make revisions required by the Architect.
 - 2. If the Contractor considers any required revision to be a change, he shall so notify the Architect as provided for in the Contract Documents.
 - 3. Make only those revisions directed by the Architect.
- C. Reimbursement of Architect's costs:
 - 1. In the event substitutions are proposed to the Architect after the Contract has been awarded, the Architect will record all time used by him and by his consultants in evaluation of each such proposed substitution.
 - 2. Whether or not the Architect approves a proposed substitution, the Contractor promptly upon receipt of the Architect's billing shall reimburse the Architect at his standard billing rates and that of his consultants for all time spent by them in evaluating the proposed substitution.
 - 3. If the Contractor does not reimburse the Architect for all time spent by them in evaluating the proposed substitution, with the authorization of the Owner, the amounts due the Architect will be deducted from the pay request.

END OF SECTION

SUBSTITUTION REQUEST FORM

TO: STRATAap

PROJECT:

We hereby submit for your consideration the following product instead of the specified item for the above project:

<u>Section</u>	<u>Paragraph</u>	<u>Specified Item</u>
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Proposed Substitution:

Attached complete technical data, including laboratory tests, if applicable.

Include complete information on changes to Drawings and/or Specifications, which proposed substitution will require for its proper installation.

Fill in blanks below:

What effect does the substitution have on other trades?

Yes No

Does the substitution affect dimensions shown on the Drawings?

Differences between proposed substitution and specified item?

Manufacturer's guarantees of the proposed and specified items are:

Same Different (explain on attachment)

The undersigned states that the function, appearance, and quality of the proposed substitution are equivalent or superior to the specified item.

Will the undersigned pay for changes to the building design, including engineering and detailing costs caused by the requested substitution? Yes No

Submitted by:
Contractor
Street Address
City, CA Zip

By: _____

Firm: _____

Phone: Fax:

Date: _____

For use by Architect/Engineer:

Accepted Accepted as noted Not Accepted Received too late

SECTION 01 60 00
PRODUCT REQUIREMENTS

PART 1 - GENERAL

1.1 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 01 33 24 "Substitution Procedures" for requests for substitutions.

1.2 DEFINITIONS

- A. Products: Items obtained for incorporating into the Work, whether purchased for Project or taken from previously purchased stock. The term "product" includes the terms "material," "equipment," "system," and terms of similar intent.
 - 1. Named Products: Items identified by manufacturer's product name, including make or model number or other designation shown or listed in manufacturer's published product literature, that is current as of date of the Contract Documents.
 - 2. New Products: Items that have not previously been incorporated into another project or facility. Products salvaged or recycled from other projects are not considered new products.
 - 3. Comparable Product: Product that is demonstrated and approved through submittal process to have the indicated qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics that equal or exceed those of specified product.
- B. Basis-of-Design Product Specification: A specification in which a specific manufacturer's product is named and accompanied by the words "basis-of-design product," including make or model number or other designation, to establish the significant qualities related to type, function, dimension, in-service performance, physical properties, appearance, and other characteristics for purposes of evaluating comparable products of additional manufacturers named in the specification.

1.3 ACTION SUBMITTALS

- A. Comparable Product Requests: Submit request for consideration of each comparable product. Identify product or fabrication or installation method to be replaced. Include Specification Section number and title and Drawing numbers and titles.
 - 1. Architect's Action: If necessary, Architect will request additional information or documentation for evaluation within one week of receipt of a comparable product request. Architect will notify Contractor of approval or rejection of proposed comparable product request within [15] days of receipt of request, or [seven] days of receipt of additional information or documentation, whichever is later.
 - a. Form of Approval: As specified in Section 01 33 24 "Submittal Procedures."
 - b. Use product specified if Architect does not issue a decision on use of a comparable product request within time allocated

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.

1.5 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 to determine that products are undamaged and properly protected.
- C. Storage:
 - 1. Store products to allow for inspection and measurement of quantity or counting of units.
 - 2. Store materials in a manner that will not endanger Project structure.
 - 3. Store products that are subject to damage by the elements, under cover in a weathertight enclosure above ground, with ventilation adequate to prevent condensation.
 - 4. Protect foam plastic from exposure to sunlight, except to extent necessary for period of installation and concealment.
 - 5. Comply with product manufacturer's written instructions for temperature, humidity, ventilation, and weather-protection requirements for storage.
 - 6. Protect stored products from damage and liquids from freezing.

1.6 PRODUCT WARRANTIES

- A. Warranties specified in other Sections shall be in addition to, and run concurrent with, other warranties required by the Contract Documents. Manufacturer's disclaimers and limitations on product warranties do not relieve Contractor of obligations under requirements of the Contract Documents.
 - 1. Manufacturer's Warranty: Written warranty furnished by individual manufacturer for a particular product and specifically endorsed by manufacturer to Owner.
 - 2. Special Warranty: Written warranty required by the Contract Documents to provide specific rights for Owner.
- B. Special Warranties: Prepare a written document that contains appropriate terms and identification, ready for execution.
 - 1. Manufacturer's Standard Form: Modified to include Project-specific information and properly executed.
 - 2. Specified Form: When specified forms are included with the Specifications, prepare a written document using indicated form properly executed.
 - 3. Refer to other Sections for specific content requirements and particular requirements for submitting special warranties.
- C. Submittal Time: Comply with requirements in Section 01 77 00 "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 not in conflict with requirements of the Contract Documents.
4. Where products are accompanied by the term "as selected," Architect will make selection.
5. Descriptive, performance, and reference standard requirements in the Specifications establish salient characteristics of products.

B. Product Selection Procedures:

1. Product: Where Specifications name a single manufacturer and product, provide the named product that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
2. Manufacturer/Source: Where Specifications name a single manufacturer or source, provide a product by the named manufacturer or source that complies with requirements. Comparable products or substitutions for Contractor's convenience will not be considered.
3. Products:
 - a. Restricted List: Where Specifications include a list of names of both manufacturers and products, provide one of the products listed that complies with requirements. Comparable products or substitutions for Contractor's convenience **may be considered by the City**.
 - b. Nonrestricted List: 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. Comply with requirements in "Comparable Products" Article for consideration of an unnamed product.
4. Manufacturers:
 - a. Restricted List: Where Specifications include a list of manufacturers' names, provide a product by one of the manufacturers listed that complies with requirements. Comparable products or substitutions for Contractor's convenience may be considered by the City.
 - b. Nonrestricted List: 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. Comply with requirements in "Comparable Products" Article for consideration of an unnamed manufacturer's product.
5. 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 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.

C. Visual Matching Specification: Where Specifications require "match Architect's sample", provide a product that complies with requirements and matches Architect's sample. Architect's decision will be final on whether a proposed product matches.

1. If no product available within specified category matches and complies with other specified requirements, comply with requirements in Section 012500 "Substitution Procedures" for proposal of product.

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

2.2 COMPARABLE PRODUCTS

A. Conditions for Consideration: 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 these requirements:

1. Evidence that the proposed product does not require revisions to the Contract Documents, that it is consistent with the Contract Documents and will produce the indicated results, and that it is compatible with other portions of the Work.
2. Detailed comparison of significant qualities of proposed product with those named in the Specifications. Significant qualities include attributes such as performance, weight, size, durability, visual effect, and specific features and requirements indicated.
3. Evidence that proposed product provides specified warranty.

4. List of similar installations for completed projects with project names and addresses and names and addresses of architects and owners, if requested.
5. Samples, if requested.

END OF SECTION

SECTION 01 71 13
MOBILIZATION AND DEMOBILIZATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Mobilization and demobilization requirements.

1.02 DEFINITIONS

- A. Mobilization includes bringing in all necessary equipment to the site to do the work. It also includes all labor materials and equipment to set up temporary offices, structures, facilities, signs and utilities.
- B. Demobilization includes removing all construction equipment and debris so site is left clean.

1.03 TEMPORARY FACILITIES

- A. Field Office: CONTRACTOR'S OPTION (Not required). If provided, the Contractor's field office must be confined to the designated staging area as determined by the City's project manager.
- B. Phone: Contractor shall maintain a mobile phone on site at all times with a number available to the Project Manager and Architect.
- C. Utilities: Owner will provide power, water. Contractor shall provide all other temporary utilities required.
- D. Sanitary facilities: Contractor to provide and maintain.
- E. Construction and Support: Set up and maintain in a neat and orderly manner temporary enclosures, identification signs, and waste material disposal.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. Temporary Materials: CONTRACTOR'S OPTION.

PART 3 - EXECUTION

3.01 INSTALLATIONS

- A. Relocate and modify temporary facilities as required.
- B. Install temporary utility service or connect to existing service.
- C. Locate field office, storage sheds, sanitary facilities and other temporary construction and support facilities for easy access and within the staging area shown on the plans. Use of gasoline-burning, open flame or salamander type heating units is prohibited.
- D. Conform to local standards and codes for erection of adequate fences and barricades. Maintain all signing, barricades, fencing, drainage, and other items as required to protect public and private property from damage caused by demolition operations.
- E. Coordinate location of storage areas to avoid interference with drainage, traffic, or private property.
- F. Provide and maintain all temporary signage required by the Work.
- G. Provide and install safety barriers as required by the work to protect employees and the public.

3.02 REMOVALS

- A. Completely remove temporary materials and equipment:
 - 1. At completion of work.
- B. Clean and repair damage caused by installation of temporary facilities.
- C. Restore areas to original or to specified conditions at completion of the Work.

END OF SECTION

SECTION 01 73 29
CUTTING AND PATCHING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Included: This Section establishes general requirements pertaining to cutting (including excavating), fitting, and patching of the Work required to:
 - 1. Make the several parts fit properly.
 - 2. Removal of weather damaged material in preparation for replacement.
 - 3. Uncover Work to provide for installation, inspection or both of ill-timed Work.
 - 4. Remove and replace Work not conforming to requirements of the Contract Documents.
 - 5. Remove and replace defective work.
 - 6. Remove and replace work described in the contract documents.

- B. Related Work Described Elsewhere:
 - 1. In addition to other requirements specified, upon the Owner's request, uncover Work to provide for inspection by the Owner of covered Work, and remove samples of installed materials for testing.
 - 2. Do not cut or alter work performed under separate contract without the Owner's written permission.

1.02 QUALITY ASSURANCE

- A. Perform all cutting and patching in strict accordance with pertinent requirements of these Specifications and, in the event no such requirements are determined, in conformance with the Owner's written direction.

1.03 SUBMITTALS

- A. Request for the Owner 's Consent:
 - 1. Prior to cutting which affects structural safety, submit written request to the Owner for permission to proceed with cutting.
 - 2. Should conditions of the Work, or Schedule, indicate a required change of materials or methods for cutting and patching, so notify the Owner and secure his written permission prior to processing.

- B. Notice to the Owner:
 - 1. Prior to cutting and patching performed pursuant to the Owner's instructions, submit cost estimate to the Owner. Secure the Owner's approval of cost estimates and type of cost reimbursement before proceeding with cutting and patching.
 - 2. Submit written notice to the Owner designating time the Work will be uncovered, to provide for the Owner's observation.

PART 2 - PRODUCTS

2.01 MATERIALS

- A. For replacement of Work removed, use materials which comply with the pertinent Sections of these Specifications.

PART 3 - EXECUTION

3.01 CONDITIONS

- A. Inspection:
 - 1. Inspect existing conditions, including elements subject to movement or damage during cutting, excavating, backfilling, and patching.
 - 2. After uncovering the Work, inspect conditions affecting installation of new Work.

B. Discrepancies:

1. If uncovered conditions are not as anticipated, immediately notify the Owner and secure needed directions.
2. Do not proceed in areas of discrepancy until all such discrepancies have been fully resolved.

3.02 PREPARATION PRIOR TO CUTTING

- A. Provide all required protection including, but not necessarily limited to, shoring, bracing, and support to maintain structural integrity of the Work.

3.03 PERFORMANCE

- A. Perform cutting and demolition by methods which will prevent damage to other portions of the Work and will provide proper surfaces to receive installation of repair and new work. Perform fitting and adjustment of products to provide finished installation complying with the specified tolerances and finishes.
- B. The Contractor shall do all cutting, fitting or patching of its work that may be required to make its several parts come together properly and fit it to receive or be received by work of other contractors shown upon, or reasonably implied by, the Drawings and Specifications for the completed structure, and Contractor shall make good after them.
- C. Contractor shall match existing and adjoining materials and details wherever possible. Re-use of existing materials may be allowed only where specifically designated in the Contract Documents or approved by the Architect or Owner.
- D. The Contractor shall not endanger any work by cutting, digging or otherwise and shall not cut or alter the work of any other contractor, without the prior written consent of the Owner.
- E. Contractor shall uncover out-of-sequence, defective and non-conforming work, provide openings for penetrations of existing surfaces and provide samples for testing. Contractor shall seal penetrations through floors, walls and ceilings.

END OF SECTION

SECTION 01 74 13
CLEANING

PART 1 - GENERAL

1.01 DESCRIPTION

- A. Work Included: Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.
- B. In addition to standards described in this Section, comply with all requirements for cleaning up as described in various other Sections of these Specifications.
- C. Related Sections: The completion of the work described in this Section may require work in or coordination with other Sections of these specifications. The Contractor and the sub-contractor shall be responsible for identifying and including all related work in other Sections of these specifications and/or drawings necessary for a complete installation of the work described in this Section. These related Sections include but are not limited to the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 QUALITY ASSURANCE

- A. Inspection: Conduct daily inspection, and more often if necessary, to verify that requirements of cleanliness are being met.
- B. Codes and Standards: In addition to the standards described in this Section, comply with all pertinent requirements of governmental agencies having jurisdiction.

PART 2 - PRODUCTS

2.01 CLEANING MATERIALS AND EQUIPMENT

- A. Provide all required personnel, equipment, and materials needed to maintain the specified standard of cleanliness.

2.02 COMPATIBILITY

- A. Use only the cleaning materials and equipment which are compatible with the surface being cleaned, as recommended by the manufacturer of the material or as approved by the architect.

PART 3 - EXECUTION

3.01 PROGRESS CLEANING

- A. General:
 - 1. Retain all stored items in an orderly arrangement allowing maximum access, not impeding drainage or traffic, and providing the required protection of materials.
 - 2. Do not allow the accumulation of scrap, debris, waste material, and other items not required for construction of this Work.
 - 3. At least twice each month, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.
 - 4. Provide adequate storage for all items awaiting removal from the job site, observing all requirements for fire protection and protection of the ecology.
- B. Site:
 - 1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage.

2. Weekly, and more often if necessary, inspect all arrangements of materials stored on the site; restock, tidy, or otherwise service all arrangements to meet the requirements of subparagraphs 3.1.1.
3. Maintain the site in a neat and orderly condition at all times.

C. Structures:

1. Weekly, and more often if necessary, inspect the structures and pick up all scrap, debris, and waste material. Remove all such items to the place designated for their storage.
2. Weekly, and more often if necessary, sweep all interior spaces clean. "Clean," for the purpose of this sub-paragraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort and hand-held broom.
3. As required preparatory to installation of succeeding materials, clean the structures or pertinent portions thereof to the degree of cleanliness recommended by the manufacturer of the succeeding material, using all equipment and materials required to achieve the required cleanliness.
4. Following the installation of finish floor materials, clean the finish floor daily (and more often if necessary) at all times while work is being performed in the space in which finish materials have been installed. "Clean," for the purpose of this subparagraph, shall be interpreted as meaning free from all foreign material which, in the opinion of the architect may be injurious to the finish floor material.

3.02 FINAL CLEANING

- A. Definition: Except as otherwise specifically provided, "clean," for the purpose of this Article, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaning using commercial quality building maintenance equipment and materials.
- B. General: Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.01 above.
- C. Site: Unless otherwise specifically directed by the architect, broom clean all paved areas on the site and all public paved areas directly adjacent to the site. Completely remove all resultant debris.
- D. Structures:
 1. Exterior: Visually inspect all exterior surfaces and remove all traces of soil, waste material, smudges, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. If necessary to achieve a uniform degree of exterior cleanliness, hose down the exterior of the structure. In the event of stubborn stains not removable with water, the architect may require light sandblasting or other cleaning at no additional cost to the City.
 2. Interior: Visually inspect all interior surfaces and remove all traces of soil, waste material, smudges, and other foreign matter. Remove all traces of splashed materials from adjacent surfaces. Remove all paint dropping, spots, stains, and dirt from finished surfaces. Use only the specified cleaning materials and equipment.
- E. Timing: Schedule final cleaning as approved by the architect to enable the City to accept a completely clean project.

END OF SECTION

SECTION 01 77 00
PROJECT CLOSEOUT

PART 1 - GENERAL

1.01 SUMMARY

- A. This Section describes contract closeout procedures including:
 - 1. Project record documents
 - 2. Product Data
 - 3. Operation and Maintenance data
 - 4. Removal of temporary construction facilities
 - 5. Final completion
 - 6. Final cleaning
 - 7. Material, equipment and finish data
 - 8. Project guarantee
 - 9. Warranties
 - 10. Restorative and Remedial Work
 - 11. Turn-in
 - 12. Fire Inspection Coordination
 - 13. Building Inspection Coordination

- B. Related Sections: The completion of the work described in this Section may require work in or coordination with other Sections of these specifications. The Contractor and the sub-contractor shall be responsible for identifying and including all related work in other Sections of these specifications and/or drawings necessary for a complete installation of the work described in this Section. These related Sections include but are not limited to the following:
 - 1. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 PROJECT RECORD DOCUMENTS

- A. Maintenance of Documents and Samples:
 - 1. Store Project documents and samples in field office apart from documents used for construction.
 - 2. Maintain Project documents in a clean, dry, legible condition and in good order.
 - 3. Do not use Project record documents for construction.

- B. Recording:
 - 1. Record information carefully and neatly, with felt tip pens, in color code designated, and in the manner approved in advance by the Architect.
 - a. Information recording will be continuous throughout construction. Information shall be recorded at the time of event(s) and shall be available at all times for review by the Architect and Owner.
 - 2. Label each document "Project Record" in large, neat, printed letters.

- C. Record Drawings:

1. Record the following kinds of information on black line or blue line prints or in electronic PDF format:
 - a. Changes made by Change Orders and other modifications described in the General Conditions.
 - b. Locations of work buried under or outside the building, such as plumbing and electrical lines and conduits.
 - c. Locations of work concealed inside the building whose general location is changed from that shown on the Contract Documents.
 - d. Locations of items, not necessarily concealed, which have been changed, with the Architect's prior acceptance, from the locations indicated on the Contract Documents.
 - e. Locations of significant items such as main power disconnect, main water and gas shutoffs, motor disconnects, filters, controls, isolating valves and the like shall be highlighted on the record drawings.
 - f. Provide line diagrams of all installed electrical power, lighting, switching, low voltage, security electronics, subpanels, meter mains, termination points, transformers and systems.
 - g. In addition to the previously specified requirements for record drawings:
 - Keep up to date during the entire progress of the work, and make available to the Architect. Furnish additional drawings necessary for clarification.
 - Record deviations from the sizes, locations, and other features of installations shown in the Contract Documents. Establish locations of underground work by dimensions to column lines or walls, locating turns, and by referenced centerline or invert elevations and rates of fall. Give sufficient information to locate work concealed in the Building. Drawing to Scale:
 - Locate main runs of piping, conduit, ductwork, and similar items by dimensions.
 - Locate other items either by dimensions or in relation to spaces within the building.
 2. Furnish reproducible record drawings, made from final Shop Drawings, updated to show actual conditions, for specified work.
- D. "As-Built" Drawings:
1. At time of acceptance of the work and prior to final payment, using the record drawings for reference, prepare "As-Built" drawings on permanent, transparent, reproducible prints or in electronic PDF format that will be furnished by the Architect and paid for by the Owner.
 2. Employ a professional draftsman to prepare the "As-Built" drawings from the record drawings; record information in ink in electronic PDF format.
- E. Specifications and Addenda:
1. Mark each Specification Section to record:
 - a. Manufacturer, trade name, catalog number, and supplier of each product and item of equipment incorporated in the work.
 - b. Changes made by Change Order and other modifications described in the General Conditions.
- F. Large Scale Layout Drawings:
1. The preparations of large scale detailed layout drawings are required for the coordination of the work, specifically Divisions 15 and 16 of the Specifications. These layout drawings are not Shop Drawings as defined by the General Conditions, but, together with Shop Drawings or layout drawings of affected Sections, are used to check, coordinate, and integrate the work of the various Sections.
 2. Provide layout drawings as part of the Project record documents.
- G. Record Construction Schedule: Using the latest Progress Schedule required by Section 01 32 16 as a reference, submit a Record Construction Schedule showing the actual dates and duration of construction activities.
- H. Sign and date the completed Project record documents; deliver to the Architect who will deliver to the Owner after Final Acceptance of the Work.

1.03 PRODUCT DATA

- A. Furnish three copies of manufacturers' product data, specifications, installation instructions, and maintenance instructions for products incorporated in the work; information specified herein shall be for products in addition to equipment items requiring operating and maintenance data specified elsewhere in this Section. All product data pertaining to an item shall be assembled together.
- B. Sign and date the completed product data, and submit to the Architect, who will deliver them to the Owner.

1.04 OPERATING AND MAINTENANCE DATA

- A. General: Where maintenance manuals, record data, and operating instructions are specified, assemble in three ring, plastic binders sized for 8-1/2" x 11" sheets or in electronic PDF format; include the following:
 - 1. Identification on, or readable through, the front cover containing the Project name and address and the general subject matter in the manual.
 - 2. Typewritten index near the front of the manual indicating locations of emergency data for equipment included in the manual.
 - 3. Instructions regarding operation and maintenance of the equipment included in the manual.
 - 4. Replaceable parts, part numbers, cost, and name and address of nearest parts distributor.
 - 5. Copy of each warranty and service contract issued for the equipment included in the manual.
 - 6. Include additional data required for the Owner's operation and maintenance.
- B. Catalog Data: Where contents of manuals include manufacturers' catalog pages, indicate the items included in the Project and delete data which is not applicable.
- C. Shop Drawings: Furnish one set of reviewed or revised Shop Drawings showing changes made during construction and/or installation.
- D. Number of Copies Required:
 - 1. Submit manuals in the quantity required to be returned, plus the following which will be retained by the Architect:
 - a. Two copies of other manuals; In lieu of paper copies, manuals may be submitted in electronic PDF format.

1.05 INSTRUCTION OF THE OWNER'S PERSONNEL

- A. Furnish qualified personnel for on the job instruction of the Owner's operating and maintenance personnel.

1.06 REMOVAL OF TEMPORARY CONSTRUCTION FACILITIES

- A. Remove temporary materials, equipment, services, and construction prior to Substantial Completion Inspection.
- B. Clean and repair damage caused by installation or use of temporary facilities.
- C. Restore permanent facilities used during construction to specified condition.

1.07 SUBSTANTIAL COMPLETION

- A. When Contractor considers Work or designated portion of the Work as substantially complete, Contractor shall submit written notice to Owner, with list of items to be completed or corrected.
- B. Within reasonable time, Architect and Owner will inspect to determine status of completion.

- C. Should Architect and Owner determine that Work is not substantially complete, Owner will promptly notify Contractor in writing, listing all defects and omissions.
- D. Contractor shall remedy deficiencies and send a second written notice of substantial completion. Owner and Architect will reinspect the Work. If deficiencies previously noted are not corrected on reinspection, then Contractor shall pay the cost of the reinspection.
- E. When Owner and Architect concurs that Work is substantially complete, Owner will issue a Certificate of Substantial Completion, accompanied by Contractor's list of items to be complete or corrected as verified by Owner and Architect.
- F. Manufactured units, equipment and systems that require startup must have been started up and run for periods prescribed by Owner before a Certificate of Substantial Completion will be issued. The term "Substantial Completion" is defined in the General Conditions of the Contract.
 - 1. Certification that all mechanical, electrical, plumbing, and hardware equipment has been tested and is operational. The Contractor will provide copies of all test results and reports including a binder by division fully indexed, outlining all equipment and performance tests. See Section 01 33 24 - Submittals and Substitutions.

1.08 COMMISSIONING:

- A. Building Commissioning:
 - 1. Not Applicable

1.09 FINAL COMPLETION

- A. Final Completion is defined in the General Conditions. Final Completion occurs when Work meets requirements for Owner's Final Acceptance. When Contractor considers Work is finally complete, submit written certification that:
 - 1. Contractor has inspected Work for compliance with Contract Documents, and all requirements for Final Acceptance have been met.
 - 2. Except for Contractor maintenance after Final Acceptance, Work has been completed in accordance with Contract Documents and deficiencies listed with Certificate of Substantial Completion have been corrected. Operation of equipment and systems have been reviewed with Owner Maintenance and Operational personnel, have been tested in the presence of Owner's representative, and are operative.
 - 3. Work is complete and ready for final inspection.
- B. In addition to submittals required by conditions of Contract, Contractor shall provide submittals required by governing authorities and submit final statement of accounting giving total adjusted Contract Sum, previous payments, and sum remaining due.
- C. When Architect and Owner finds Work is acceptable and final submittal is complete, Owner will issue final change order reflecting approved adjustments to Contract Sum not previously made by Change Order. Should Architect or Owner determine that Work is incomplete or defective:
 - 1. Owner promptly will so notify Contractor, in writing, listing the incomplete or defective items.
 - 2. Contractor shall promptly remedy the deficiencies and notify the Owner when it is ready for re inspection.
 - 3. When Architect and Owner determine that the Work is acceptable under the Contract Documents, Owner will request Contractor to make closeout submittals.
- D. Final adjustments of accounts:
 - 1. Contractor shall submit a final statement of accounting to Owner, showing all adjustments to the Contract Sum and complete and execute a notarized Final Lien Release.

2. If so required, Owner shall prepare a final Change Order for submittal to Contractor, showing adjustment to the Contract Sum that were not previously made into a Contract Modification.

1.10 FINAL CLEANING

- A. Execute final cleaning prior to final inspection.
- B. Clean interior and exterior surfaces exposed to view; remove temporary labels, stains and foreign substances, polish transparent and glossy surfaces, vacuum carpeted and soft surfaces.
 1. Clean equipment and fixtures to a sanitary condition, clean or replace filters of mechanical equipment operated during construction, clean ducts, blowers and coils of units operated without filters during construction.
 2. Employ skilled workers for final cleaning.
- C. Clean Site; mechanically sweep paved areas.
- D. Remove waste and surplus materials, rubbish, and construction facilities from Site.

1.11 MATERIAL, EQUIPMENT AND FINISH DATA

- A. Contractor shall submit two sets of data for primary materials, equipment and finishes as required under each specification section prior to final inspection, bound in 8-1/2" by 11" three-ring binders with durable plastic covers to Owner for Owner's records. In lieu of paper copies, Contractor may submit an electronic version of material data in PDF format.

1.12 MISCELLANEOUS PROJECT RECORD SUBMITTALS

- A. Refer to other Specification Sections for miscellaneous record keeping requirements and submittals in connection with various construction activities. Immediately prior to Substantial Completion, complete miscellaneous records and place in good order, properly identified and bound or filed, ready for use and reference. Submit to Owner for Owner's records.

1.13 PROJECT GUARANTEE

- A. Contractor shall guarantee Work done under Contract against failures, leaks or breaks or other unsatisfactory conditions due to defective equipment, materials or workmanship, and perform repair work or replacement required, at Contractor's sole expense, for period of one year from date of Final Acceptance.
- B. Neither recordation of final acceptance nor final certificate for payment nor provision of the Contract nor partial or entire use or occupancy of premises by Owner shall constitute acceptance of Work not done in accordance with Contract Documents nor relieve Contractor of liability in respect to express warranties or responsibility for faulty materials or workmanship.
- C. Owner may make repairs to defective Work as set forth in the General Conditions, if, within 5 working days after mailing of written notice of defective work to Contractor or authorized agent, Contractor shall neglect to make or undertake repair with due diligence; provided, however, that in case of leak or emergency where, in opinion of Owner, delay would cause hazard to health or serious loss or damage, repairs may be made without notice being sent to Contractor, and Contractor shall pay cost thereof.
- D. If, after installation, operation or use of materials or equipment to be furnished under Contract proves to be unsatisfactory to Owner, Owner shall have right to operate and use materials or equipment until it can, without damage to Owner, be taken out of service for correction or replacement. Period of use of defective materials or equipment pending correction or replacement shall in no way decrease guarantee period required for acceptable corrected or replaced items of materials or equipment.
- E. Nothing in this Section shall be construed to limit, relieve or release Contractor's, subcontractors' and equipment suppliers' liability to Owner for damages sustained as result of latent defects in equipment caused by negligence of suppliers' agents, employees or subcontractors. Stated in another manner, warranty contained in the Contract Documents shall not amount to, nor shall it be deemed to be, waiver by Owner of any rights or remedies (or time limits in which to enforce such rights or remedies) it may have for defective workmanship or defective materials under laws of this State pertaining to acts of negligence.

1.14 WARRANTIES

- A. Execute Contractor's submittals and assemble warranty documents, and operations and maintenance manuals, executed or supplied by subcontractors, suppliers, and manufacturers.
 - 1. Provide table of contents and assemble in 8-1/2" by 11" three-ring binder with durable plastic cover, appropriately separated and organized.
 - 2. Assemble in Specification Section order.
- B. The Contractor shall not be held responsible for defects due to misuse, negligence, willful damage, improper maintenance or accident caused by Others, or for defective parts whose replacement is necessitated by failure of Owner's maintenance forces to properly clean and service them, provided the Contractor has furnished complete maintenance instructions and appropriate instruction to the Owner.
- C. Submit material prior to final application for payment.
 - 1. For equipment put into use with Owner's permission during construction, submit within ten (10) working days after first operation.
 - 2. For items of Work delayed materially beyond Date of Substantial Completion, provide updated submittal within ten (10) working days after acceptance, listing date of acceptance as start of warranty period.
- D. Warranties are intended to protect Owner against failure of work and against deficient, defective and faulty materials and workmanship, regardless of sources.
- E. Limitations: Warranties are not intended to cover failures that result from the following:
 - 1. Unusual or abnormal phenomena of the elements
 - 2. Vandalism after substantial completion
 - 3. Insurrection or acts of aggression including war
- F. Related Damages and Losses: Remove and replace Work which is damaged as result of defective Work, or which must be removed and replaced to provide access for correction of warranted Work.
- G. Warranty Reinstatement: After correction of warranted Work, reinstate warranty for corrected Work to date of original warranty expiration or to a date not less than 365 days after corrected Work was done, whichever is later.
- H. Replacement Cost: Replace or restore failing warranted items without regard to anticipated useful service lives.
- I. Warranty Forms: Submit drafts to Owner for approval prior to execution. Forms shall not detract from or confuse requirements or interpretations of Contract Documents.
 - 1. Warranty shall be countersigned by manufacturers.
 - 2. Where specified, warranty shall be countersigned by subcontractors and installers.
- J. Rejection of Warranties: Owner reserves right to reject unsolicited and coincidental product warranties that detract from or confuse requirements or interpretations of Contract Documents.
- K. Term of Warranties: For materials, equipment, systems and workmanship warranty period shall be one (1) year minimum from date of final completion of entire Work except where:
 - 1. Detailed specifications for certain materials, equipment or systems require longer warranty periods.
 - 2. Materials, equipment or systems are put into beneficial use of Owner prior to Final Completion as agreed to in writing by Owner.
- L. Warranty of Title: No material, supplies, or equipment for Work under Contract shall be purchased subject to any chattel mortgage, security agreement, or under a conditional sale or other agreement by which an interest therein or any part thereof is retained by seller or supplier.

Contractor warrants good title to all material, supplies, and equipment installed or incorporated in Work and agrees upon completion of all work to deliver premises, together with improvements and appurtenances constructed or placed thereon by Contractor, to Owner free from any claim, liens, security interest, or charges, and further agrees that neither Contractor nor any person, firm, or corporation furnishing any materials or labor for any Work covered by Contract shall have right to lien upon premises or improvement or appurtenances thereon. Nothing contained in this Paragraph, however, shall defeat or impair right of persons furnishing materials or labor under bond given by Contractor for their protection or any rights under law permitting persons to look to funds due Contractor in hands of Owner.

1.15 SERVICE AND MAINTENANCE CONTRACTS

- A. Compile, review, and submit specified service and maintenance contracts as specified for warranties and bonds.

1.16 PREPARATION FOR FINAL INSPECTION

- A. Perform final cleaning as specified in Section 01 74 13.
- B. Assemble warranties, service and maintenance contracts, operating and maintenance instructions, and other items as specified, and submit to the Architect.
- C. Remove temporary tapes, wrapping, coatings, paper labels, and other similar items. Dust, mop, wash, or wipe exposed and semi-exposed surfaces.
- D. At the Contractor's request, the Architect will attend a pre-final detailed Project review, to allow the Contractor to gather the majority of punch list items while the subcontractors are still on the Project. Provide a typewritten list of all items remaining to be completed or corrected; list by room number and item number. Segregate plumbing, HVAC, and electrical on separate lists.

If the Owner requires that the Architect perform, assemble or assist in creating the pre-final project list in order to move the Project to completion, the Architect shall be compensated for all associated costs which will be deducted from the progress payment due the Contractor. Any associated costs resulting from the additional work will be processed as a Deductive Change Order in accordance with the General Conditions.

If the Architect or Owner determines that the list is inadequate, non-descriptive or incomplete based on the review, the Architect shall generate the list. The Architect shall be compensated for all associated costs which will be deducted from the progress payment due the Contractor. Any associated costs resulting from the additional work will be processed as a Deductive Change Order in accordance with the General Conditions.

- E. At the Contractor's request, the Architect will make a final Project review when the items in the pre-final punch list have been completed and after final cleanup, operation tests and the like have been performed.
- F. When the Architect determines that the Project is substantially complete and that final punch list items are completed, a final Project Inspection Report shall be executed.
- G. Upon execution of the Final Project Inspection Report, record and pay for Notice of Completion and furnish copies to the Owner and the Architect.

1.17 RESTORATION OF DAMAGED WORK

- A. Restore or replace damaged materials and finishes caused by movement of equipment or other operations of the Contractor or as specified or directed by the Architect, at no additional cost to the Owner.
- B. Restoration shall be equal to the original work, and finishes shall match the appearance of existing adjacent work.

1.18 REMEDIAL WORK

- A. Replace work due to faulty workmanship or materials at no additional Cost to the Owner.
- B. Coordinate work with the Owner and perform at such time and manner to cause minimal interruption and inconvenience to the Owner's operations.

1.19 EXTRA MATERIALS

- A. Where specified, provide extra materials in the quantities and manner specified.
- B. Store these materials as directed by the Owner.
- C. Delivery and certification of extra materials shall be prerequisite to Substantial Completion.

1.20 TURN-IN

- A. Contract Documents will not be closed out and final payment will not be made until all personnel Identification Media, vehicle permits and keys issued to Contractor during prosecution of Work are turned in to Owner.

1.21 RELEASE OF CLAIMS

- A. Contract Documents will not be closed out and final payment will not be made until a Release of Any and All Claims, is completed and executed by Contractor and Owner.

1.22 FIRE INSPECTION COORDINATION

- A. Contractor shall coordinate fire inspection and secure sufficient notice to Owner to permit convenient scheduling.

1.23 BUILDING INSPECTION COORDINATION

- A. Contractor shall coordinate with Owner's and Building inspectors a final inspection for the purpose of obtaining final approval an occupancy certificate.

END OF SECTION

DIVISION 2
EXISTING CONDITIONS

SECTION 02 41 19
SELECTIVE DEMOLITION

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Demolition and removal of selected portions of building or structure.
 - 2. Demolition and removal of selected site elements.
 - 3. Salvage of existing items to be reused or recycled.

1.2 DEFINITIONS

- A. Remove: Detach items from existing construction and legally dispose of them off-site unless indicated to be removed and salvaged or removed and reinstalled.
- B. Remove and Salvage: Carefully detach from existing construction, in a manner to prevent damage, and deliver to Owner.
- C. Remove and Reinstall: Detach items from existing construction, prepare for reuse, store in a secure location, and reinstall where indicated.
- D. Existing to Remain: Existing items of construction that are not to be permanently removed and that are not otherwise indicated to be removed, removed and salvaged, or removed and reinstalled.

1.3 PREINSTALLATION MEETINGS

- A. Predemolition Conference: Conduct conference at project site with demolition subcontractor.

1.4 QUALITY ASSURANCE

- A. Refrigerant Recovery Technician Qualifications: Certified by an EPA-approved certification program.

1.5 FIELD CONDITIONS

- A. Owner will utilize portions of building during selective demolition. Conduct selective demolition so Owner's operations will not be disrupted.
- B. Hazardous Materials: Hazardous materials are present in buildings and structures to be selectively demolished. General Contractor to coordinate demolition activities with hazardous material abatement.
- C. Utility Service: Maintain existing utilities indicated to remain in service and protect them against damage during selective demolition operations.

1.6 WARRANTY

- A. Existing Warranties: Remove, replace, patch, and repair materials and surfaces cut or damaged during selective demolition, by methods and with materials so as not to void existing warranties.

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 ANSI/ASSE A10.6 and NFPA 241.

PART 3 - EXECUTION

3.1 EXAMINATION

- A. Verify that utilities to be disconnected have been disconnected and capped before starting selective demolition operations.
- B. Survey existing conditions and correlate with requirements indicated to determine extent of selective demolition required.
- C. When unanticipated mechanical, electrical, or structural elements that conflict with intended function or design are encountered, investigate and measure the nature and extent of conflict. Promptly report to design team lead.
- D. Survey of Existing Conditions: Compare existing conditions in field with those indicated on drawings. Report any discrepancies to design team lead.

3.2 UTILITY SERVICES AND MECHANICAL/ELECTRICAL SYSTEMS

- A. Existing Services/Systems to Remain: Maintain services/systems to remain and protect them against damage.
- B. Existing Services/Systems to Be Removed, Relocated, or Abandoned: Locate, identify, disconnect, and seal or cap off indicated utility services and mechanical/electrical systems serving areas to be selectively demolished.
 - 1. Arrange to shut off indicated utilities with Owner's representative.
 - 2. If services/systems are required to be removed, relocated, or abandoned, provide temporary services/systems that bypass area of selective demolition and that maintain continuity of services/systems to other parts of building.
 - 3. Disconnect, demolish, and remove components indicated to be removed.
 - a. Equipment to Be Removed: Disconnect and cap services and remove equipment.
 - b. Equipment to Be Removed and Reinstalled: Disconnect and cap services and remove, clean, and store equipment; when appropriate, reinstall, reconnect, and make equipment operational.
 - c. Equipment to Be Removed and Salvaged: Disconnect and cap services and remove equipment and deliver to Owner.

3.3 PREPARATION

- A. 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.
 - 1. Comply with requirements for access and protection specified in Section 01 50 00 "Temporary Facilities and Controls."
- B. Temporary Facilities: Provide temporary barricades and other protection required to prevent injury to people and damage to adjacent buildings and facilities to remain.

- C. Temporary Shoring: 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.

3.4 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. 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, to minimize disturbance of adjacent surfaces. Temporarily cover openings to remain.
 - 2. Cut or drill from the exposed or finished side into concealed surfaces to avoid marring existing finished surfaces.
 - 3. 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.
 - 4. Locate selective demolition equipment and remove debris and materials so as not to impose excessive loads on supporting walls, floors, or framing.
 - 5. Dispose of demolished items and materials promptly.
- B. Existing Items to Remain: Protect construction indicated to remain against damage and soiling during selective demolition.

3.5 DISPOSAL OF DEMOLISHED MATERIALS

- A. General: Except for items or materials indicated to be reused, salvaged, reinstalled, or otherwise indicated to remain Owner's property, remove demolished materials from Project site and legally dispose of them in an approved landfill.
 - 1. Do not allow demolished materials to accumulate on-site.
 - 2. Remove and transport debris in a manner that will prevent spillage on adjacent surfaces and areas.
 - 3. Remove debris from elevated portions of building by chute, hoist, or other device that will convey debris to grade level in a controlled descent.
- B. Burning: Do not burn demolished materials.
- C. Disposal: Transport demolished materials off Owner's property and legally dispose of them.

3.6 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

DIVISION 6
WOOD, PLASTICS AND COMPOSITES

SECTION 06 10 00
ROUGH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Framing with dimension lumber.
2. Framing with engineered wood products.
3. Shear wall & roof panels.
4. Rooftop equipment bases and support curbs.
5. Wood blocking, cants, and nailers.
6. Wood furring.
7. Wood sleepers.
8. Plywood backing panels.

B. Related Requirements:

1. Section 06 20 13 Exterior Finish Carpentry

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

1. Include data for wood-preservative treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements
2. Include data for fire-retardant treatment from chemical treatment manufacturer and certification by treating plant that treated materials comply with requirements.

1.3 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. Fire-retardant-treated wood.
3. Engineered wood products.
4. Shear panels.
5. Power-driven fasteners.
6. Powder-actuated fasteners.
7. Expansion anchors.
8. Metal framing anchors.

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. Provide dressed lumber, S4S, unless otherwise indicated.
- B. Maximum Moisture Content of Lumber: **19 percent at time of installation, 16 percent at loading and 15 percent at close-in**, unless otherwise indicated.
- C. Engineered Wood Products: Provide 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: Provide engineered wood products with allowable design stresses, as published by manufacturer, that 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: AWWA U1; Use Category UC2 for interior construction not in contact with the ground, Use Category UC3b for exterior construction not in contact with the ground, and Use Category UC4a for items in contact with the 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 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 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**, and similar concealed members.
 3. Wood floor plates that are installed over roof deck.

2.3 DIMENSION LUMBER FRAMING

- A. Framing - minimum grades UON:
1. Posts and beams 4x and larger: DF No. 1.
 2. Joists, rafters, plates and 2x6 studs: DF No. 2
 3. 2x4 studs, construction grade beams and posts to be free of heart center (FOHC). "Framing Other Than Non-Load-Bearing Interior Partitions" Paragraph below is an example of a performance requirement that can be used instead of "Framing Other Than Non-Load-Bearing Interior Partitions" Paragraph above.
- B. Exposed Framing: Provide material hand-selected 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. Application: Exposed exterior.
 2. Species and Grade: As indicated above for load-bearing construction of same type.

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. For items of dimension lumber size, provide Construction or No. 2 grade lumber of any species.

2.5 PLYWOOD SHEATHING

A. Structural Plywood shall conform to PSI-07, stamped and graded by APA with exterior glue 5/8" min.

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 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 A 153/A 153M.

B. Power-Driven Fasteners: NES NER-272.

C. Bolts: Steel bolts complying with ASTM A 307, Grade A hex nuts and, where indicated, flat washers.

2.7 METAL FRAMING ANCHORS

A. Allowable Design Loads: Provide products with allowable design loads, as published by manufacturer, that meet or exceed those 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.

B. Galvanized-Steel Sheet: Hot-dip, zinc-coated steel sheet complying with ASTM A 653/A 653M, G60 coating designation.

1. Use for interior locations unless otherwise indicated.

C. Hot-Dip, Heavy-Galvanized Steel Sheet: ASTM A 653/A 653M; 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.

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 (0.6 mm).

PART 3 - EXECUTION

3.1 INSTALLATION, GENERAL

A. Set rough carpentry to required levels and lines, with members plumb, true to line, cut, and fitted. Fit rough carpentry to other construction; scribe and cope as needed for accurate fit. Locate furring, nailers, blocking, grounds, and similar supports to comply with requirements for attaching other construction.

- B. Framing Standard: Comply with AF&PA's WCD 1, "Details for Conventional Wood Frame Construction," unless otherwise indicated.
- C. Framing with Engineered Wood Products: Install engineered wood products to comply with manufacturer's written instructions.
- D. Install fire-retardant treated plywood backing panels with classification marking of testing agency exposed to view.
- E. Shear Wall Panels: Install shear wall panels to comply with manufacturer's written instructions.
- F. Metal Framing Anchors: Install metal framing anchors to comply with manufacturer's written instructions. Install fasteners through each fastener hole.
- G. Do not splice structural members between supports unless otherwise indicated.
- H. Comply with AWWPA M4 for applying field treatment to cut surfaces of preservative-treated lumber.
- I. Where wood-preservative-treated lumber is installed adjacent to metal decking, install continuous flexible flashing separator between wood and metal decking.
- J. Securely attach rough carpentry work to substrate by anchoring and fastening as indicated, complying with the following:
 - 1. NES NER-272 for power-driven fasteners.
 - 2. Table 2304.9.1, "Fastening Schedule," in ICC's International Building Code.
 - 3. 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.

3.2 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 sufficiently wet that moisture content exceeds that specified, apply EPA-registered borate treatment. Apply borate solution by spraying to comply with EPA-registered label.

END OF SECTION

SECTION 06 20 13

EXTERIOR FINISH CARPENTRY

PART 1 - GENERAL

1.1 SUMMARY

A. Section Includes:

1. Work that replaces wood removed due to dryrot, or as required by drawings or by field conditions.
 - a. Exterior wood trim.
 - b. Lumber, plywood and hardboard siding.
 - c. Plywood soffits.
 - d. Exterior railings.

B. Related Requirements:

1. Section 06 10 00 Rough Carpentry
2. Section 09 91 00 Painting

1.2 ACTION SUBMITTALS

A. Product Data: For each type of process and factory-fabricated product.

B. Samples: For each type of product involving selection of colors, profiles, or textures.

1.3 INFORMATIONAL SUBMITTALS

A. Compliance Certificates:

1. For lumber that is not marked with grade stamp.
2. For preservative-treated wood that is not marked with treatment-quality mark.

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

1. Wood-preservative-treated wood.

PART 2 - PRODUCTS

2.1 WOOD-PRESERVATIVE-TREATED MATERIALS

A. Preservative Treatment by Pressure Process: AWPA U1; Use Category UC3b.

1. Kiln dry lumber and plywood after treatment to a maximum moisture content of 19 and 18 percent respectively.
2. Preservative Chemicals: Acceptable to authorities having jurisdiction.
3. Application: Where required do to exposure.

2.2 EXTERIOR TRIM

A. Lumber Trim:

1. Species and Grade: Western Red Cedar Clear Grade or Redwood Heart B.

2. Maximum Moisture Content: 15 percent.
3. Face Surface: Surfaced (smooth) or saw textured to match existing.

2.3 FIBER CEMENT SIDING

- A. James Hardie:
 1. Horizontal Siding
- B. Thickness: Match existing.
- C. Pattern: Lap Siding
- D. Surface: Select Cedermill

2.4 FIBER CEMENT TRIM

- A. James Hardie:
 1. Hardie Trim
- B. Thickness: Match existing.
- C. Pattern: NA
- D. Surface: Select Cedermill

2.5 FIBER CEMENT SOFFITS

- A. James Hardie:
- B. Thickness: Match existing..
- C. Surface: Venter Cedarmill

2.6 EXTERIOR RAILINGS

- A. Railings: Clear, kiln-dried, solid, Western Red Cedar Clear Grade or Redwood Heart B.Douglas ; railing stock to match existing.

2.7 MISCELLANEOUS MATERIALS

- A. Fasteners for Exterior Finish Carpentry: Provide nails or screws, in sufficient length to penetrate not less than 1-1/2 inches (38 mm) into wood substrate per manufacturer requirements.
 1. For prefinished items, provide matching prefinished aluminum fasteners where face fastening is required.
 2. For applications not otherwise indicated, provide hot-dip galvanized-steel fasteners.
- B. Sealants: Latex, complying with ASTM C 834 Type OP, Grade NF and with applicable requirements in Section 079200 "Joint Sealants," recommended by sealant manufacturer and manufacturer of substrates for intended application.

PART 3 - EXECUTION

3.1 PREPARATION

- A. Prime lumber and moldings to be painted, including both faces and edges, unless factory primed. Cut to required lengths and prime ends. Comply with requirements in Section 09 91 00 "Painting."

3.2 INSTALLATION, GENERAL

- A. Install exterior finish carpentry level, plumb, true, and aligned with adjacent materials. Use concealed shims where necessary for alignment.
 - 1. Scribe and cut exterior finish carpentry to fit adjoining work. Refinish and seal cuts as recommended by manufacturer.

3.3 STANDING AND RUNNING TRIM INSTALLATION

- A. Install flat-grain lumber with bark side exposed to weather.
- B. Install trim to comply with manufacturer's written instructions.
- C. Install trim with minimum number of joints practical, using full-length pieces from maximum lengths of lumber available. Do not use pieces less than 24 inches (610 mm) long except where necessary.
 - 1. Use scarf joints for end-to-end joints.
 - 2. Stagger end joints in adjacent and related members.
- D. Fit exterior joints to exclude water. Cope at returns and miter at corners.

3.4 SIDING INSTALLATION

- A. Install siding to comply with manufacturer's written instructions.
- B. Lumber Siding: Apply starter strip along bottom edge of sheathing or sill. Install first course of siding with lower edge at least 1/8 inch (3 mm) below starter strip and subsequent courses lapped 1 inch (25 mm) over course below. Nail at each stud. Do not allow nails to penetrate more than one thickness of siding.
- C. Plywood Siding: Install panels with edges over framing or blocking. Nail at 6 inches (150 mm) o.c. at panel perimeter and 12 inches (300 mm) o.c. at intermediate supports unless manufacturer recommends closer spacing. Leave 1/16-inch (1.5-mm) gap between adjacent panels and 1/8-inch (3-mm) gap at perimeter, openings, and horizontal joints unless otherwise recommended by panel manufacturer.
 - 1. Seal butt joints at inside and outside corners and at trim locations.

END OF SECTION

DIVISION 7
THERMAL AND MOISTURE PROTECTION

SECTION 07 01 55
PREPARATION FOR REROOFING

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Removal of existing roofing system in preparation for a new roof membrane system.

1.02 RELATED REQUIREMENTS

- A. Section 07 62 00 – Sheet Metal Flashing and Trim

1.03 PRICE AND PAYMENT PROCEDURES

- A. Repair Existing Wood Deck:
 - 1. Basis of Measurement: By the square foot.
 - 2. Basis of Payment: Includes replacing decking with new material of same thickness.
- B. Repair Existing Wood Trim, Fascia Board, etc.
 - 1. Basis of Measurement: By the board foot.
 - 2. Basis of Payment: Includes replacing wood trim, fascia board, etc. with new material of same type and thickness.

1.04 REFERENCE STANDARDS

- A. ASTM C208 - Standard Specification for Cellulosic Fiber Insulating Board ; 2008a.

1.05 ADMINISTRATIVE REQUIREMENTS

- A. Pre-installation Meeting: Convene one week before starting work of this section.
- B. Schedule work to coincide with commencement of installation of new roofing system.

1.06 FIELD CONDITIONS

- A. Do not remove existing roofing membrane when weather conditions threaten the integrity of the building contents or intended continued occupancy.
- B. Maintain continuous temporary protection prior to and during installation of new roofing system.

PART 2 PRODUCTS

2.01 MATERIALS

- A. Temporary Protection: Sheet polyethylene; provide weights to retain sheeting in position.
- B. Protection Board: ASTM C208 cellulose fiber board, one face finished with mineral fiber, asphalt and kraft paper.

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that existing roof surface is clear and ready for work of this section.

3.02 PREPARATION

- A. Sweep roof surface clean of loose matter.
- B. Remove loose refuse and dispose off site.

3.03 MATERIAL REMOVAL

- A. Remove only existing roofing materials that can be replaced with new materials as the weather will permit.
- B. Remove metal counter flashings.

- C. Remove roofing membrane, perimeter base flashings, flashings around roof protrusions, pitch pans and pockets.
- D. Remove insulation and fasteners, cant strips, wood blocking, etc.
- E. Remove sheathing paper and underlay.
- F. Where necessary, repair existing wood deck surface to provide smooth working surface for new roof system.
- G. Identify any areas of existing wood deck, fascia and trim which are unsound, have dry rot or are otherwise recommended for replacement and advise Owner for its approval before proceeding.

3.04 FIELD QUALITY CONTROL

- A. The drawings identify the approximate limits to material removal.

3.05 PROTECTION

- A. Provide temporary protective sheeting over uncovered deck surfaces.
- B. Turn sheeting up and over parapets and curbing. Retain sheeting in position with temporary fasteners.
- C. Provide for surface drainage from sheeting to existing drainage facilities.
- D. Do not permit traffic over unprotected or repaired deck surface.
- E. Contractor is responsible for any damage resulting to building, occupants and contents which results from inadequate temporary protective measures against wind and rain during course of construction.
- F. Contractor to provide secure temporary fenced area for the storage of material including the existing clay roof tiles which are to be reused on the building.

3.06 SCHEDULES

- A. All Roof Areas: Remove existing roofing system(s), perimeter flashings, base flashings, counter flashings, vent stack flashings, roofing membrane, and existing nailers, accessories, etc.
- B. Remove roof mounted mechanical equipment and reinstall, as necessary. See mechanical drawings.

END OF SECTION

SECTION 07 22 16
ROOF INSULATION

PART 1 - GENERAL

1.01 SECTION INCLUDES

- A. Roof insulation and installation.

1.02 RELATED SECTIONS

- A. Section 06 5100 - Rough Carpentry.
- B. Section 07 5550 – Modified Bitumen Roofing

1.03 REFERENCES

- A. ASTM A-167-94a Specification for Stainless and Heat-Resisting Chromium Nickel Steel Plate, Sheet and Strip
- B. ASTM A- 653 Specification for Steel Sheet, Zinc-Coated (Galvanized) or Zinc - Iron Alloy-Coated (Galvanized) by the Hot-Dip Process
- C. ASTM B-29 Pig Lead
- D. ASTM B-32 Solder Metal
- E. ASTM C-165-95 Test Method for Measuring Compressive Properties of Thermal Insulation
- F. ASTM C-208-95 Specifications for Cellulosic Fiber Insulating Board
- G. ASTM C-209-92 Test Method for Cellulosic Fiber Insulating Board
- H. ASTM C-272-91 Test Method for Water Absorption of Core Materials for Structural Sandwich Constructions
- I. ASTM C 518 - Standard Test Method for Steady-State Heat Flux Measurements and Thermal Transmission Properties by Means of the Heat Flow Meter Apparatus.
- J. ASTM C-728-91 Specification for Perlite Thermal Insulation Board
- K. ASTM D-5 Test Method for Penetration of Bituminous Materials
- L. ASTM D-36 Test Method for Softening Point of Bitumen (Ring and Ball Apparatus)
- M. ASTM D-92 Test Method for Flash and Fire Pints by Cleveland Open Cup
- N. ASTM D-312 Specification for Asphalt Used in Roofing
- O. ASTM E 84 - Standard Test Method for Surface Burning Characteristics of Building Materials.
- P. ASTM E 96 - Standard Test Methods for Water Vapor Transmission of Materials.
- Q. ASTM E 2114-01 - Standard Terminology for Sustainability Relative to the Performance of Buildings
- R. ASTM 2129 -01 - Standard Practice for Data Collection for Sustainability Assessment of Building Product
- S. SMACNA Sheet Metal and Air Conditioning Contractors National Association
- T. UL Underwriter's Laboratories, Inc., Northbrook, Illinois
- U. FS HH-I-1972 Insulation Board, Polyisocyanurate
- V. WH Warnock Hersey International, Inc. Middleton, WI

1.04 SUBMITTALS

- A. Product Data: Manufacturer's specifications and installation instructions for each product specified.
- B. Provide approval letters from insulation manufacturer for use of their insulation within this particular roofing system type.
- C. Provide a sample of each insulation type.
- D. Shop Drawings:

1. Indicate complete installation details of tapered insulation system, including identification of each insulation block, sequence of installation, layout, drain locations, roof slopes, thicknesses, crickets and saddles.
2. Include: Outline of roof, location of drains and scuppers, complete board layout of tapered insulation components, thickness and the average "R" value for the completed insulation system.

E. Certifications: Submit all of the following:

1. Roof manufacturer's certification that insulation fasteners furnished are acceptable to roof manufacturer.
2. Roof manufacturer's certification that insulation furnished is acceptable to roofing manufacturer as a component of roofing system and is eligible for roof manufacturer's system warranty.
3. Certification that insulation and fastening system furnished is Tested and Approved by Factory Mutual for 1-90 Wind Up-Lift Requirements.

1.05 DESIGN REQUIREMENTS

- A. No ponding of water on roof, all runoff flows to drain.
- B. All roof insulation overlaid with perlite board. No roofing installed over exposed insulation.

1.06 PERFORMANCE REQUIREMENTS

- A. General: Fire Classification, ASTM E-108; Section specifies a roof system with an external fire rating. The descriptions given below are general descriptions. The insulation, recovery board, and all other components shall be included as required by the membrane manufacturer to provide a Factory Mutual Class 1A fire resistance rating or Listed by Underwriter's Laboratories or Warnock Hersey for external fire tests of ASTM - E - 108 Class A.
- B. Provide continuity of thermal barrier at building enclosure elements.
- C. Flame spread less than 25 when tested in accordance with ASTM E84.
- D. Smoke density less than 50 when tested in accordance with ASTM E84.

1.07 DELIVERY, STORAGE, AND HANDLING

- A. Deliver materials in manufacturer's original, unopened packaging, with identifying tags or labels intact and legible.
- B. Coordinate scheduling for timely deliveries and prompt installation of materials.
- C. Store insulation and support system in a dry, protected area out of direct sunlight. If storage area is outdoors, store material off the ground and protected by a suitable waterproof cover.
- D. Remove insulation which is warped, broken or exposed from moisture from the site.

1.08 ENVIRONMENTAL REQUIREMENTS

- A. Handle and install insulation system only under conditions and temperatures recommended by the manufacturer.
- B. Coordinate insulation placement to assure that material can be covered promptly with roof. Do not leave insulation exposed overnight or to inclement weather.

1.09 WARRANTY

- A. Provide warranty coordinated with the requirements of other sections specifying roof products.

PART 2 PRODUCTS

2.01 MANUFACTURER

- A. Acceptable Manufacturers:
 1. Manville Roofing Systems, www.jm.com
 2. Hunter, www.hpanels.com
 3. GAF, www.gaf.com.

2.02 MATERIALS

- A. Polyisocyanurate Roof Insulation: Provide thicknesses of insulation as indicated, or as required to provide minimum slopes indicated or required. Provide combination of types and thicknesses to provide a complete system.

1. Surface Burning Characteristics: Provide assembly with composite flame spread rating of 25 or less and smoke developed of 50 or less, as determined in accordance with ASTM E 84.
 2. Factory tapered, closed cell polyisocyanurate foam core, where indicated on ROOF PLAN.
 3. Board insulation, closed cell polyisocyanurate foam core.
 - a. Minimum thickness as indicated on ROOF PLAN and in details.
 - b. R-Value per inch: 5.6.
 4. Insulation board shall meet the following requirements:
 - a. UL, WH or FM listed under Roofing Systems
 - b. Federal Specification HH-I-1972: Class 1
 - c. Dimensional Stability ASTM D2126: 2% max.
 - d. Compressive Strength ASTM D1621: Grade 3, min. 25 psi.
 - e. Vapor Permeability ASTM E-96: 1 perm max.
 - f. Foam Core Density ASTM D1622: 2.0 pcf min.
 - g. Water Absorption ASTM C209: <1 %
 - h. Flame Spread ASTM E 84: 25 max.
 - i. R-Factor HR per inch thickness ASTM C 518: (Design Value)
- B. Tapered Foam Roof Insulation with Fiber-Reinforced Facers: Tapered H-Shield; closed-cell polyisocyanurate foam core and bonded to fiber-reinforced facers on both sides; conforming to ASTM C 1289, Type II, Class 1 with square edges.
1. Blowing Agent: Zero ODP, 3rd generation.
 2. Fire Ratings:
 - a. UL 790 (ASTM E 108), Class A.
 3. FM Approval, Wind Uplift Classification: 1-90.
 4. Slope of tapered board shall be:
 - a. Field of the roof where slope required
 - i. 1/4 inch (6 mm) per foot.
 - b. Cricket and water checks: Between all drains and at all curbs where the width or the curb, including all cant strips, at the roof surface exceeds 36 inches
 - i. 3/4 inch (13 mm) per foot.
- B. Related Materials:
1. Fiber Cant, crickets and Tapered Edge Strips: Performed rigid insulation units of sizes/shapes indicated or as required to achieve configurations shown, of perlite or organic fiberboard.
 2. Foam insulation adhesive: Insul-Lock HR by The Garland Company or approved equal.
- C. Cover Board:
1. Dens-Deck Prime 1/2 inch thickness.
 - a. Qualities: Nonstructural glass mat faced, noncombustible, water-resistant treated gypsum core panel.
 - b. Board Size: Four feet by four feet (4'x4').
 - c. Thickness: One half (1/2) inch.
 - d. R-Value: .56
 - e. Compliances: UL, WH or FM listed under Roofing Systems.
 - f. Manufacturer: G-P Gypsum Corporation
- D. Fasteners:
1. Corrosion resistant screw fastener as recommended by roof membrane manufacturer.
 2. Factory Mutual Tested and Approved with 3 in. coated disc for 1-90 rating, length required to penetrate deck one inch.
- E. Insulation Adhesive:
1. Insulock HR, The Garland Company, or approved equal

PART 3 EXECUTION

3.01 EXAMINATION

- A. Verify that roof framing system is complete and ready to receive insulation system. Do not proceed with installation until unsatisfactory conditions have been corrected.
1. Verify that work which penetrates roof deck has been completed.
 2. Verify that wood nailers are properly and securely installed.
 3. Examine surfaces for defects, rough spots, ridges, depressions, foreign material, moisture, and unevenness.

4. Do not proceed until defects are corrected.
5. Do not apply insulation until substrate is sufficiently dry, 12 percent moisture maximum, and ready to receive insulation and adhesive.
6. Broom clean substrate immediately prior to application.
7. Use additional insulation to fill depressions and low spots that would otherwise cause ponding water.

3.02 DECK PREPARATION

- A. Verify flatness and tightness of joints of decking.
- B. Confirm dry deck by moisture meter with 12 percent moisture maximum.
- C. Place insulation boards in a method to maximize contact bedding. Notch out undersides of boards which directly cover structural fasteners or strapping which are attached to the roof deck. Make notch equal to the length, width and depth of structural strap or fastener. Install boards to prevent "bubbles", high spots or dams across direction of required drainage flow.

3.03 INSTALLATION

- A. General: Install roof insulation in strict accordance with manufacturer's instructions and approved shop drawings.
 1. Place boards in a method to maximize contact bedding. Notch out undersides of insulation where insulation directly covers structural fasteners which are attached to the roof deck. Make notch equal to the length, width and depth of steel strap.
 2. Filler pieces of insulation require at least two fasteners per piece if size of insulation is less than four square feet.
 3. All joints shall be staggered and offset a minimum of 6" from the previous layer.
 4. Install no more than 2" of thermal insulation as a single layer. Mechanically attach all thermal insulation on metal and wood decks. Fasteners shall only penetrate the top flute of structural deck or through wood decking. Fasteners shall not penetrate top flute of structural deck more than 1".
 5. All subsequent layer shall be installed with foam insulation adhesive.

3.04 CLEANING AND PROTECTION

- A. Remove debris and cartons from roof deck. Protect finished work to insure that insulation remains clean and dry, ready to receive roofing membrane.

END OF SECTION

SECTION 07 54 16 -1
KEE-STONE HYBRID ROOFING

PART 1 GENERAL

1.1 SECTION INCLUDES

- A. Cold Applied 2-Ply Thermoplastic Hybrid Roof System (KEE-Stone FB 60). (2.17) (3.4)
- B. Accessories. (2.19)
- C. Edge Treatment and Roof Penetration Flashings. (2.20) (3.9)

1.2 RELATED SECTIONS

- A. Section 05050 - Roof Deck Substrate Preparation.
- B. Section 06114 - Wood Blocking and Curbing: Wood nailers and cant strips.
- C. Section 07220 - Insulation Board: Insulation and fastening.
- D. Section 07620 - Sheet Metal Flashing and Trim: Weather protection for base flashings.
- E. Section 07710 - Manufactured Roof Specialties: Counter flashing gravel stops, and fascia.
- F. Section 07724 - Roof Hatches: Frame and integral curb; Counter flashing.

1.3 REFERENCES

- A. ASTM D 41 - Standard Specification for Asphalt Primer Used in Roofing, Damp proofing, and Waterproofing.
- B. ASTM D 312 - Standard Specification for Asphalt used in Roofing.
- C. ASTM D 451 - Standard Test Method for Sieve Analysis of Granular Mineral Surfacing for Asphalt Roofing Products.
- D. ASTM D 1970 - Specification for Sheet Materials, Self-Adhering Polymer Modified Bituminous, Used as Steep Roofing Underlayment for Ice Dam Protection.
- E. ASTM D 1079 Standard Terminology Relating to Roofing, Waterproofing and Bituminous Materials.
- F. ASTM D 5147 Standard Test Method for Sampling and Testing Modified Bituminous Sheet Materials.
- G. ASTM D 6162 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using a Combination of Polyester and Glass Fiber Reinforcements.
- H. ASTM D 6163 Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Glass Fiber Reinforcements.
- I. ASTM D 6164 - Standard Specification for Styrene Butadiene Styrene (SBS) Modified Bituminous Sheet Materials Using Polyester Reinforcements.
- J. ASTM D 6754 - Standard Specification for Ketone Ethylene Ester (KEE) Sheet Roofing.
- K. ASTM E 108 - Standard Test Methods for Fire Test of Roof Coverings
- L. Factory Mutual Research (FM): Roof Assembly Classifications.

- M. National Roofing Contractors Association (NRCA): Roofing and Waterproofing Manual.
- N. Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA) - Architectural Sheet Metal Manual.
- O. Underwriters Laboratories, Inc. (UL): Fire Hazard Classifications.
- P. Warnock Hersey (WH): Fire Hazard Classifications.
- Q. ANSI-SPRI ES-1 Wind Design Standard for Edge Systems used with Low Slope Roofing Systems.
- R. ASCE 7, Minimum Design Loads for Buildings and Other Structures
- S. UL - Fire Resistance Directory.
- T. FM Approvals - Roof Coverings and/or RoofNav assembly database.
- U. California Title 24 Energy Efficient Standards.

1.4 DESIGN / PERFORMANCE REQUIREMENTS

- A. Perform work in accordance with all federal, state and local codes.
- B. Design Requirements:
 - 1. Uniform Wind Uplift Load Capacity
 - a. Installed roof system shall withstand negative (uplift) design wind loading pressures complying with the following criteria.
 - 1) Design Code: ASCE 7, Method 2 for Components and Cladding.
 - 2) Importance Category:
 - a) III.
 - 3) Importance Factor of:
 - a) 1.0
 - 4) Wind Speed: 98 mph
 - 5) Ultimate Pullout Value: See Calculation from Manufacturer
 - 6) Exposure Category:
 - a) D.
 - 7) Design Roof Height: 18 feet.
 - 8) Minimum Building Width: 24 feet.
 - 9) Roof Pitch: 1/4:12.
 - 10) Roof Area Design Uplift Pressure:
 - a) See zones on Manufacturer Wind Uplift Calculations
 - 2. Live Load: 20 psf, or not to exceed original building design.
 - 3. Dead Load:
 - a. Installation of new roofing materials shall not exceed the dead load capacity of the existing roof structure.
- C. Roof system shall have been tested in compliance with the following codes and test requirements:
 - 1. Cool Roof Rating Council:
 - a. CRRC Directory CRRC: #3 CRRC & #8FM

1.5 SUBMITTALS

- A. Submit under provisions of Section 01300.
- B. Product Data: Manufacturer's data sheets on each product to be used, including:
 - 1. Preparation instructions and recommendations.
 - 2. Storage and handling requirements and recommendations.

3. Installation instructions.

- C. Shop Drawings: Submit shop drawings including installation details of roofing, flashing, fastening, insulation and vapor barrier, including notation of roof slopes and fastening patterns of insulation and base modified bitumen membrane, prior to job start.
- D. Design Pressure Calculations: Submit design pressure calculations for the roof area in accordance with ASCE 7 and local Building Code requirements. Include a roof system attachment analysis report, certifying the system's compliance with applicable wind load requirements before Work begins. Report shall be signed and sealed by a Professional Engineer registered in the State of the Project who has provided roof system attachment analysis for not less than 5 consecutive years.
- E. Verification Samples: For each modified bituminous membrane ply product specified, two samples, minimum size 6 inches (150 mm) square, representing actual product, color, and patterns.
- F. Manufacturer's Certificates: Provide to certify products meet or exceed specified requirements.
- G. Manufacturer's Certificate: Submit a certified copy of the roofing manufacturer's ISO 9001 compliance certificate.
- H. Written certification from the roofing system manufacturer Territory Manager, where the work is to be performed, certifying the applicator is currently authorized for the installation of the specified roof system and is in good standing with the manufacturing company.
- I. Test Reports: Submit test reports, prepared by an independent testing agency, for all modified bituminous sheet roofing, indicating compliance with ASTM D5147. Testing must be performed at 77 deg. F. Tests at 0 deg. F will not be considered.
- J. Manufacturer's Fire Compliance Certificate: Certify that the roof system furnished is approved by Factory Mutual (FM), Underwriters Laboratories (UL), Warnock Hersey (WH) or approved thirs party testing facility in accordance with ASTM E108, Class A for external fire and meets local or nationally recognized building codes.
- K. Statement from the Roofing System Manufacturer Territory Manager, signed by an Officer of the Corporation with the Corporate Seal affixed there to stating that the Roofing System Manufacturer will provide field inspections, weekly, during the entire period of installation of the roofing assembly, and a final inspection when construction is completed. All inspections are to be performed by a full-time employee of the manufacturer at no additional cost to the owner.
- L. Closeout Submittals: Provide manufacturer's maintenance instructions that include recommendations for periodic inspection and maintenance of all completed roofing work. Provide product warranty executed by the manufacturer. Assist Owner in preparation and submittal of roof installation acceptance certification as may be necessary in connection with fire and extended coverage insurance on roofing and associated work.

1.6 QUALITY ASSURANCE

- A. Perform Work in accordance with NRCA Roofing and Waterproofing Manual.
- B. Manufacturer Qualifications: Company specializing in manufacturing products specified with documented ISO 9001 certification and minimum of twelve years of documented experience and must not have been in Chapter 11 bankruptcy during the last five years.
- C. Installer Qualifications: Company specializing in performing Work of this section with minimum five years documented experience and a certified Pre-Approved Garland Contractor.
- D. Installer's Field Supervision: Maintain a full-time Supervisor/Foreman on job site during all phases of

roofing work while roofing work is in progress. A copy of the plans are to be on the project roofing site at all times.

- E. Product Certification: Provide manufacturer's certification that materials are manufactured in the United States and conform to requirements specified herein, are chemically and physically compatible with each other, and are suitable for inclusion within the total roof system specified herein.
- F. Source Limitations: Obtain all components of roof system from a single manufacturer. Secondary products that are required shall be recommended and approved in writing by the roofing system Manufacturer. Upon request of the Architect or Owner, submit Manufacturer's written approval of secondary components in list form, signed by an authorized agent of the Manufacturer.

1.7 PRE-INSTALLATION MEETINGS

- A. Convene minimum two weeks prior to commencing Work of this section.
- B. Review installation procedures and coordination required with related Work.
- C. Inspect and make notes of job conditions prior to installation:
 - 1. Record minutes of the conference and provide copies to all parties present.
 - 2. Identify all outstanding issues in writing designating the responsible party for follow-up action and the timetable for completion.
 - 3. Installation of roofing system shall not begin until all outstanding issues are resolved to the satisfaction of the Architect.
- D. Provide a weekly installation schedule a minimum of one week before any work, and update weekly until the project has been completed and accepted by the manufacturer.

1.8 DELIVERY, STORAGE, AND HANDLING

- A. Deliver and store products in manufacturer's unopened packaging with labels intact until ready for installation.
- B. Store all roofing materials in a dry place, on pallets or raised platforms, out of direct exposure to the elements until time of application. Store materials at least 4 inches above ground level and covered with "breathable" tarpaulins.
- C. Stored in accordance with the instructions of the manufacturer prior to their application or installation. Store roll goods on end on a clean flat surface except store KEE-Stone FB 60 rolls flat on a clean flat surface. No wet or damaged materials will be used in the application.
- D. Store at room temperature wherever possible, until immediately prior to installing the roll. During winter, store materials in a heated location with a 50 degree F (10 degree C) minimum temperature, removed only as needed for immediate use. Keep materials away from open flame or welding sparks.
- E. Avoid stockpiling of materials on roofs without first obtaining acceptance from the Architect/Engineer.
- F. Adhesive storage shall be between the range of above 50 degree F (10 degree C) and below 80 degree F (27 degree C). Area of storage shall be constructed for flammable storage.

1.9 MANUFACTURER'S INSPECTIONS

- A. When the project is in progress, the Roofing System Manufacturer will provide the following:
 - 1. Keep the Owner's representative informed as to the progress and quality the work as observed.

2. Provide job site inspections a minimum of three days a week.
3. Report to the Owner's representative in writing, any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
4. Confirm, after completion of the project and based on manufacturer's observations and tests, that the manufacturer has observed no application procedures in conflict with the specifications other than those that may have been previously reported and corrected.

1.10 COORDINATION

- A. Coordinate Work with installing associated metal flashings as work of this section proceeds.

1.11 PROJECT CONDITIONS

- A. Maintain environmental conditions (temperature, humidity, and ventilation) within limits recommended by the manufacturer for optimum results. Do not install products under environmental conditions outside the manufacturer's absolute limits.
- B. Weather Condition Limitations: Do not apply roofing membrane during inclement weather or when a 40% chance of precipitation is expected.
- C. Do not apply roofing insulation or membrane to damp deck surfaces.
- D. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherproofed during the same day.
- E. Proceed with roofing work only when existing and forecasted weather conditions will permit the unit of work to be installed following the manufacturer's recommendations and warranty.

1.12 SEQUENCING AND SCHEDULING

- A. Sequence installation of modified bituminous sheet roofing with related units of work specified in other sections to ensure that roof assemblies, including roof accessories, flashing, trim, and joint sealers, are protected against damage from effects of weather, corrosion, and adjacent construction activity.
- B. All work must be fully completed on each day. Phased construction will not be accepted.

1.13 WARRANTY

- A. Upon completion of the work, provide the Manufacturer's written and signed Edge-To-Edge NDLS System Warranty, warranting that, if a leak develops in the roof during the term of this warranty, due either to defective material or defective workmanship by the installer, the manufacturer shall provide the Owner, at the Manufacturer's expense, with the labor and material necessary to return the defective area to a watertight condition including Garland Metal Components.
 1. Warranty Period:
 - a. 30 years from date of acceptance.
 - 1) Warranty to cover the calculated wind speed.
 - 2) Edge metal and flashing
- B. Installer is to guarantee all work against defects in materials and workmanship for a period indicated following final acceptance of the Work.
 1. Warranty Period:
 - a. 5 years from date of acceptance.

PART 2 PRODUCTS

2.1 MANUFACTURERS

- A. Acceptable Manufacturer: Garland Company, Inc. (The); 3800 E. 91st St., Cleveland, OH 44105. Phone: 209-712-8780. Email: vharper@garlandco.com.
- B. The Products specified are intended and the Standard of Quality for the products required for this project. If other products are proposed the bidder must disclose in the bid the manufacturer and the products that they intend to use on the Project. If no manufacturer and products are listed, the bid may be accepted only with the use of products specified.
 - 1. Bidder will not be allowed to change materials after the bid opening date.
 - 2. If alternate products are included in the bid, the products must be equal to or exceed the products specified. Supporting technical data shall be submitted to the Architect/ Owner for approval prior to acceptance.
 - 3. In making a request for substitution, the Bidder/Roofing Contractor represents that it has:
 - a. Personally investigated the proposed product or method, and determined that it is equal or superior in all respects to that specified.
 - b. Will provide the same guarantee for substitution as for the product and method specified.
 - c. Will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
 - d. Will waive all claims for additional cost related to substitution, which consequently become apparent.
 - e. Cost data is complete and includes all related cost under his/her contract or other contracts, which may be affected by the substitution.
 - f. Will reimburse the Owner for all redesign cost by the Architect for accommodation of the substitution.
 - 4. Architect/ Owner reserves the right to be the final authority on the acceptance or rejection of any or all bids, proposed alternate roofing systems or materials that has met ALL specified requirement criteria.
 - 5. Failure to submit substitution package at the time of bid, or any portion thereof requested, will result in immediate disqualification and consideration for that particular contractor's request for manufacturer substitution.

2.2 COLD APPLIED 2-PLY THERMOPLASTIC HYBRID ROOF SYSTEM - KEE-Stone FB 60

- A. Vapor Barrier: One ply bonded to the primed decking substrate with manufacturer SA Primer:
 - 1. Vapor Smart SA
- B. Slip Sheet: One ply fastened to the deck.
 - 1. Red Rosin Sheet:
- C. Base (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive:
 - 1. FlexBase Plus 80:
- D. Thermoplastic Cap (Ply) Sheet: One ply bonded to the prepared substrate with Interply Adhesive (2):
 - 1. KEE-Stone FB 60:
- E. Interply Adhesive: (1)
 - 1. Green-Lock Plus Membrane Adhesive.
- F. Interply Adhesive: (2)
 - 1. KEE-Lock Splatter Foam

- G. Flashing Base Ply: One ply bonded to the prepared substrate with Flashing Ply Adhesive:
 - 1. FlexBase Plus 80:
- H. Flashing Cap (Ply) Sheet: One ply bonded to the prepared substrate with Flashing Ply Adhesive:
 - 1. KEE-Stone FB 60 Flashing.
- I. Flashing Ply Adhesive (1):
 - 1. Green-Lock Plus Flashing Adhesive.
- J. Flashing Ply Adhesive (2):
 - 1. KEE-Lock Foam

2.3 ACCESSORIES:

- A. Roof Insulation: Provide G-P Gypsum DenDeck Prime, G-P Gypsum DenDeck DuraGuard, USG Securrock for proper adhesion of the self-adhered base sheet in accordance with Section 07220.
 - 1. Provide G-P Gypsum DenDeck Prime
 - a. ½” DensDeck Prime
 - 2. Provide Rigid Polyisocyanurate insulation to achieve a minimum slope of
 - a. Field Slope: ¼:12”
 - b. Cricket slope: ¾:12”
- B. Vapor Retarder: VaporSmart SA, Self Adhering sheet. Install one layer fully adhered to the primed substrate and all areas to receive roofing products. shingled uniformly to achieve one ply over the entire prepared substrate. Shingle in direction of slope of roof to shed water on each area of roof.
- C. Urethane Sealant Hybrid - Tuff-Stuff MS: One part, non-sag sealant as approved and furnished by the membrane manufacturer for moving joints.
 - 1. Tensile Strength, ASTM D 412: 250 psi
 - 2. Elongation, ASTM D 412: 450%
 - 3. Hardness, Shore A ASTM C 920: 35
 - 4. Adhesion-in-Peel, ASTM C 92: 30 pli
- D. Sealant - Green-Lock Structural Adhesive: Single component, 100% solids structural adhesive as furnished and recommended by the membrane manufacturer.
 - 1. Elongation, ASTM D 412: 300%
 - 2. Hardness, Shore A, ASTM C 920: 50
 - 3. Shear Strength, ASTM D 1002: 300 psi

2.4 EDGE TREATMENT AND ROOF PENETRATION FLASHINGS

- A. Pre-Manufactured Coping Cap: R-Mer Edge Coping Cap Cover and Splice Plate.
 - 1. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 24 gauge, 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.
- B. Pre-Manufactured Coping Cap: R-Mer Edge Coping Chairs
 - 1. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 0.0635 nom./ 16 gauge, 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.
- C. Pre-Manufactured Edge Metal Finishes:
 - 1. Exposed and unexposed surfaces for mill finish flashing, fascia, and coping cap, as shipped from the mill
 - 2. Exposed surfaces for coated panels:
 - a. Steel Finishes: fluorocarbon finish. Epoxy primer baked both sides, .2-.25 mils thickness as approved by finish coat manufacturer.
Weathering finish as referred by National Coil Coaters Association (NCCA). Provided with the following properties.

- 1) Pencil Hardness: ASTM D3363, HB-H / NCCA II-2.
 - 2) Bend: ASTM D-4145, O-T / NCCA II-19
 - 3) Cross-Hatch Adhesion: ASTM D3359, no loss of adhesion
 - 4) Gloss (60 deg. angle): ASTM D523, 25+/-5%
 - 5) Reverse Bend: ASTM D2794, no cracking or loss of adhesion
 - 6) Nominal Thickness: ASTM D1005
 - a) Primer: 0.2 mils
 - b) Topcoat, 0.7 mils min
 - c) Clear Coat (optional, only used with 22 ga. steel) 0.3 mils
 - 7) Color: Provide as selected by Architect from Garland Standard Color Options.
- D. Flashing Boot - Rubbertite Flashing Boot: Neoprene pipe boot for sealing single or multiple pipe penetrations adhered in approved adhesives as recommended and furnished by the membrane manufacturer.
- E. Vents and Breathers: Heavy gauge aluminum and fully insulated vent that allows moisture and air to escape but not enter the roof system as recommended and furnished by the membrane manufacturer.
- F. Pitch pans, Rain Collar 24 gauge stainless or 20oz (567gram) copper. All joints should be welded/soldered watertight. See details for design.
- G. Drain Flashings should be 30" x 30" sheet GreenWeld formed and rolled, as provided by the membrane manufacturer.
- H. Plumbing stacks should be GreenWeld set in GreenWeld Adhesive formed and rolled., as provided by the membrane manufacturer stripped into the base sheet with a target of base sheet material over the top, Install an additional KEE Pipe boot over the cap sheet, band and seal with Tuff-Stuff MS.
- I. Liquid Flashing - Tuff-Flash: An asphaltic-polyurethane, low odor, liquid flashing material designed for specialized details unable to be waterproofed with typical modified membrane flashings.
1. Tensile Strength, ASTM D 412: 400 psi
 2. Elongation, ASTM D 412: 300%
 3. Density @77 deg. F 8.5 lb/gal typical

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation until substrates have been properly prepared.
- B. Inspect and approve the deck condition, slopes and fastener backing if applicable, parapet walls, expansion joints, roof drains, stack vents, vent outlets, nailers and surfaces and elements.
- C. Verify that work penetrating the roof deck, or which may otherwise affect the roofing, has been properly completed.
- D. If substrate preparation and other conditions are the responsibility of another installer, notify Architect of unsatisfactory preparation before proceeding.

3.2 PREPARATION

- A. General: Clean surfaces thoroughly prior to installation.
 1. Prepare surfaces using the methods recommended by the manufacturer for achieving the best result for the substrate under the project conditions.
 2. Fill substrate surface voids that are greater than 1/4 inch wide with an acceptable fill material.
 3. Roof surface to receive roofing system shall be smooth, clean, free from loose gravel, dirt and debris, dry and structurally sound.

4. Wherever necessary, all surfaces to receive roofing materials shall be power broom and vacuumed to remove debris and loose matter prior to starting work.
 5. Do not apply roofing during inclement weather. Do not apply roofing membrane to damp, frozen, dirty, or dusty surfaces.
 6. Fasteners and plates for fastening components mechanically to the substrate shall provide a minimum pull-out capacity of 300 lbs. (136 k) per fastener. Base or ply sheets attached with cap nails require a minimum pullout capacity of 40 lb. per nail.
 7. Prime decks where required, in accordance with requirements and recommendations of the primer and deck manufacturer.
- B. Wood Deck:
1. Dimensional wood deck shall be minimum 1 inch (25 mm) thick, knotholes and cracks larger than 1/4 inch shall be covered with sheet metal. All boards shall be appropriately nailed and have adequate end bearing to the centers of beams/rafters. Lumber shall be kiln dried.
 2. Plywood shall be a minimum 15/32 inch (11.9 mm) thick and conform to the standards and installation requirements of the American Plywood Association (APA).
 3. If no roof insulation is specified, provide a suitable dry sheathing paper, followed by an approved base sheet nailed appropriately for the specified roof system, with 1 inch (25 mm) diameter caps and annular nails unless otherwise required by the applicable Code or Approval agency.
 4. Insulation is to be mechanically attached in accordance with the insulation manufacturer's recommendations unless otherwise required by the applicable Code.
 5. In all retrofit roof applications, it is required that deck be inspected for defects. Any defects are to be corrected per the deck manufacturer's recommendations and standards of the APA/Engineered Wood Association prior to new roof application.
 6. Light metal wall ties or other structural metal exposed on top of the wood deck shall be covered with one ply of a heavy roofing sheet, such as HPR Glasbase Base Sheet, extending 2 inches to 6 inches (51 mm to 152 mm) beyond the metal in all directions. Nail in place before applying the base ply.
- C. Re-Roofing Applications:
1. Remove existing roof flashings from curbs and parapet walls down to the surface of the roof. Remove existing flashings at roof drains and roof penetrations.
 2. Remove all wet, deteriorated, blistered or delaminated roofing membrane or insulation and fill in any low spots occurring as a result of removal work to create a smooth, even surface for application of new roof membranes.
 3. Install new wood nailers as necessary to accommodate insulation/recovery board or new nailing patterns.
 4. When mechanically attached, the fastening pattern for the insulation/recovery board shall be as recommended by the specific product manufacturer.
 5. Re-roofing over coal tar pitch requires a mechanically attached recovery board or insulation and a base sheet prior to the application of roofing system.
 6. Existing roof surfaces shall be primed as necessary with asphalt primer meeting ASTM D 41 and allowed to dry prior to installing the roofing system.

3.3 INSTALLATION - GENERAL

- A. Install modified bitumen membranes and flashings in accordance with manufacturer's instructions and with the recommendations provided by the National Roofing Contractors Association's Roofing & Waterproofing Manual, the Asphalt Roofing Manufacturers Association, and applicable codes.
- B. A minimum roof slope of 1/4 inch is required to maximize the long-term performance of the roof system. Drains shall be of sufficient number and size, and located to provide satisfactory and rapid drainage of the entire roof surface following the applicable Code. No Ponding water is accepted.
- C. General: Avoid installation of modified bitumen membranes at temperatures lower than 40-45 degrees

- F. When work at such temperatures unavoidable use the following precautions:
1. Take extra care during cold weather installation and when ambient temperatures are affected by wind or humidity, to ensure adequate bonding is achieved between the surfaces to be joined. Use extra care at material seam welds and where adhesion of the applied product to the appropriately prepared substrate as the substrate can be affected by such temperature constraints as well.
 2. Unrolling of cold materials, under low ambient conditions must be avoided to prevent the likelihood of unnecessary stress cracking. Rolls must be at least 40 degrees F at the time of application. If the membrane roll becomes stiff or difficult to install, it must be replaced with roll from a heated storage area.
- D. Commence installation of the roofing system at the lowest point of the roof (or roof area), working up the slope toward the highest point. Lap sheets shingle fashion so as to constantly shed water
- E. All slopes greater than 2:12 require back-nailing to prevent slippage of the ply sheets. Use ring or spiral-shank 1 inch cap nails, or screws and plates at a rate of 1 fastener per ply (including the membrane) at each insulation stop. Place insulation stops at 16 ft o.c. for slopes less than 3:12 and 4 feet o.c. for slopes greater than 3:12. On non-insulated systems, nail each ply directly into the deck at the rate specified above. When slope exceeds 2:12, install all plies parallel to the slope (strapping) to facilitate backnailing. Install 4 additional fasteners at the upper edge of the membrane when strapping the plies.

3.4 INSTALLATION COLD-APPLIED ROOF SYSTEM

- A. Base Ply: Cut base ply sheets into 18 foot lengths and allow plies to relax before installing. Install base sheet in Interply Adhesive: applied at the rate required by the manufacturer. Shingle base sheets uniformly to achieve one ply throughout over the prepared substrate. Shingle in proper direction to shed water on each large area of roofing.
1. Lap ply sheet ends 8 inches. Stagger end laps 12 inches minimum.
 2. Solidly bond to the substrate and adjacent ply with specified cold adhesive at the rate of 2 to 2-1/2 gallons per 100 square feet.
 3. Roll must push a puddle of adhesive in front of it with adhesive slightly visible at all side laps. Use care to eliminate air entrapment under the membrane.
 4. Install subsequent rolls of modified across the roof as above with a minimum of 4 inch side laps and 8 inch staggered end laps. Lay modified membrane in the same direction as the underlayers but the laps shall not coincide with the laps of the base layers.
 5. Extend plies 2 inches beyond top edges of cants at wall and projection bases.
 6. Install base flashing ply to all perimeter and projection details.
 7. Allow the one ply of base sheet to cure at least 30 minutes before installing the modified membrane. However, the modified membrane must be installed the same day as the base plies.
- B. Thermoplastic Cap Ply: Allow plies to relax before installing. Install in interplay adhesive applied at the rate required by the manufacturer. Shingle sheets uniformly over the prepared substrate to achieve the number of plies specified. Shingle in proper direction to shed water on each large area of roofing.
1. All field seams exceeding 10 feet in length shall be welded with an approved automatic welder.
 2. All field seams must be clean and dry prior to initiating any field welding. Remove foreign materials from the seams (dirt, oils, etc.) with acetone or authorized alternative. Use CLEAN WHITE COTTON cloths and allow approximately five minutes for solvents to dissipate before initiating the automatic welder. Do not use denim or synthetic rags for cleaning.
 3. Contaminated areas within a membrane seam will inhibit proper welding and will require a membrane patch or strip.
 4. All welding shall be performed only by qualified personnel to ensure the quality and continuity of the weld. The lap or seam area of the membrane may be intermittently tack welded to hold the membrane in place.
 5. The back interior edge of the membrane shall be welded first, with a thin, continuous weld to

- concentrate heat along the exterior edge of the lap during the final welding pass.
6. Follow local code requirements for electric supply, grounding and surge protection. The use of a dedicated, portable generator is highly recommended to ensure a consistent electrical supply, without fluctuations that can interfere with weld consistency.
 7. Properly welded seams shall utilize a 1.5 inch wide nozzle, to create a homogeneous weld, a minimum of 1.5 inches in width.
- C. Fibrous Cant Strips: Provide non-combustible perlite or glass fiber cant strips at all wall/curb detail treatments where angle changes are greater than 45 degrees. Cant may be set in approved cold adhesives, or mechanically attached with approved plates and fasteners.
- D. Wood Blocking, Nailers and Cant Strips: Provide wood blocking, nailers and cant strips as specified in Section 06114.
1. Provide nailers at all roof perimeters and penetrations for fastening membrane flashings and sheet metal components.
 2. Wood nailers should match the height of any insulation, providing a smooth and even transition between flashing and insulation areas.
 3. Nailer lengths should be spaced with a minimum 1/8 inch gap for expansion and contraction between each length or change of direction.
 4. Nailers and flashings should be fastened in accordance with Factory Mutual "Loss Prevention Data Sheet 1- 49, Perimeter Flashing" and be designed to be capable of resisting a minimum force of 200 lbs/lineal foot in any direction.
- E. Metal Work: Provide metal flashings, counter flashings, parapet coping caps and thru-wall flashings as specified in Section 07620 or Section 07710. Install in accordance with the SMACNA "Architectural Sheet Metal Manual" or the NRCA Roofing Waterproofing manual.
- F. Termination Bar: Provide a metal termination bar or approved top edge securement at the terminus of all flashing sheets at walls and curbs. Fasten the bar a minimum of 8 inches (203 mm) o/c to achieve constant compression. Provide suitable, sealant at the top edge if required.
- G. Flashing Base Ply: Install flashing sheets by the same application method used for the base ply.
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis. Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.
 2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
 3. Adhere to the underlying base ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
 4. Solidly adhere the entire flashing ply to the substrate. Secure the tops of all flashings that are not run up and over curb through termination bar fastened at 6 inches (152 mm) O.C. and sealed at top.
 5. Seal all vertical laps of flashing ply with a three-course application of trowel-grade mastic and fiberglass mesh.
 6. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
 7. Coordinate roof accessories, miscellaneous sheet metal accessory items, including piping vents and other devices with the roofing system work.
 8. Secure the top edge of the flashing sheet using a termination bar only when the wall surface above is waterproofed, or nailed 4 inches on center and covered with an acceptable counter flashing.
- H. Flashing Cap Ply:
1. Seal curb, wall and parapet flashings with an application of mastic and mesh on a daily basis.

Do not permit conditions to exist that will allow moisture to enter behind, around or under the roof or flashing membrane.

2. Prepare all walls, penetrations, expansion joints and where shown on the Drawings to be flashed with required primer at the rate of 100 square feet per gallon. Allow primer to dry tack free.
3. Adhere to the underlying base flashing ply with specified flashing ply adhesive unless otherwise specified. Nail off at a minimum of 8 inches (203 mm) o.c. from the finished roof at all vertical surfaces.
4. Coordinate counter flashing, cap flashings, expansion joints and similar work with modified bitumen roofing work as specified.
5. Coordinate roof accessories, miscellaneous sheet metal accessory items with the roofing system work.
6. All stripping shall be installed prior to flashing cap sheet installation.
7. Heat and scrape granules when welding or adhering at cut areas and seams to granular surfaces at all flashings.
8. Secure the top edge of the flashing sheet using a termination bar only when the wall surface above is waterproofed, or nailed 4 inches on center and covered with an acceptable counter flashing.

I. Roof Walkways: Provide walkways in areas indicated on the Drawings.

3.5 INSTALLATION EDGE TREATMENT AND ROOF PENETRATION FLASHING

- A. Fabricated Flashings: Fabricated flashings and trim are provided as specified in Section 07620.
 1. Fabricated flashings and trim shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the Copper Development Association "Copper in Architecture - Handbook" as applicable.
- B. Manufactured Roof Specialties: Manufactured copings, fascia, gravel stops, control joints, expansion joints, joint covers and related flashings and trim are provided as specified in Section
 1. Manufactured roof specialties shall conform to the detail requirements of SMACNA "Architectural Sheet Metal Manual" and/or the National Roofing Contractor's Association "Roofing and Waterproofing Manual" as applicable.
- C. Raised Metal Edge:
 1. Inspect the nailer to assure proper attachment and configuration.
 2. Run base ply over the edge. Assure coverage of all wood nailers. Fasten plies with ring shank nails at 8 inches (203 mm) o.c.
 3. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
 4. Install new metal edge hooked to continuous cleat and set in bed of roof cement. Fasten flange to wood nailer every 3 inches (76 mm) o.c. staggered.
 5. Prime metal edge and allow to dry. Do not prime for Green-Lock System lightly sand metal to improve bond.
 6. Strip in flange with base flashing ply covering entire flange in bitumen with 6 inches (152 mm) on to the field of roof. Assure ply laps do not coincide with metal laps.
 7. Install a second ply of thermoplastic cap flashing ply heat welded over the thermoplastic cap ply, 9 inches (228 mm) on to the field of the roof.
- D. Roof Edge With Gutter:
 1. Inspect the nailer to assure proper attachment and configuration. Increase slope at metal edge by additional degree of slope in first board.
 2. Run base ply over the edge. Assure coverage of all wood nailers minimum of 2" past the bottom of the nailer.
 3. Install gutter and strapping.
 4. Install continuous cleat and fasten at 6 inches (152 mm) o.c.
 5. Install new metal edge/noising hooked to continuous cleat and set in bed of roof cement.

- Fasten flange to wood nailer every 3 inches (76 mm) o.c. staggered.
6. Prime metal edge and allow to dry. Do not prime for Green-Lock System lightly sand metal to improve bond.
 7. Strip in flange with base flashing ply covering entire flange in bitumen with 6 inches (152 mm) onto the field of the base ply. Assure ply laps do not coincide with metal laps.
 8. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 9. Install a second ply of thermoplastic flashing cap ply heat welded over the thermoplastic cap ply, 9 inches (228 mm) on to the field of the roof.
- E. Scupper Through Roof Edge:
1. Inspect the nailer to assure proper attachment and configuration.
 2. Run base ply over the edge. Assure coverage of all wood nailers.
 3. Install a scupper box in a 1/4 inch (6 mm) bed of mastic. Assure all box seams are soldered and have a minimum 4 inch (101 mm) flange. Make sure all corners are closed and soldered. Prime scupper and allow to dry.
 4. Fasten flange of scupper box to nailer every 3 inches (76mm) o.c. staggered.
 5. Strip in edge with base flashing ply covering entire area in bitumen with 6 inches (152 mm) on to the field of base ply of the roof.
 6. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 7. Install a second ply of thermoplastic flashing cap ply heat welded over the thermoplastic cap ply, 9 inches (228 mm) on to the field of the roof.
 8. Heat weld a cover strip over all seams.
- F. Scupper Through Wall:
1. Inspect the nailer to assure proper attachment and configuration.
 2. Run base ply over nailer, into scupper hole and up flashing as in typical wall flashing detail. Assure coverage of all wood nailers.
 3. Install a scupper box in a 1/4 inch (6 mm) bed of mastic. Assure all box seams are soldered and have a minimum 4 inch (101 mm) flange. Make sure all corners are closed and soldered. Prime scupper and allow to dry.
 4. Fasten flange of scupper box every 3 inches (76 mm) o.c. staggered.
 5. Strip in flange of scupper box with base flashing ply covering entire area with 6 inch (152 mm) overlap on to the field of the roof and wall flashing.
 6. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 7. Install a second ply of thermoplastic flashing cap ply heat welded over the thermoplastic cap ply, 9 inches (228 mm) on to the field of the roof.
 8. Heat weld a cover strip over all seams.
- G. Scupper Through Wall (Overflow):
1. Inspect the nailer to assure proper attachment and configuration.
 2. Run base ply over nailer up the overflow, into the scupper hole and up flashing as in typical wall flashing detail. Assure coverage of all wood nailers.
 3. Install scupper box in a 1/4 inch (6 mm) bed of mastic. Assure all box seams are soldered and have a minimum 4 inch (101 mm) flange. Make sure all corners are closed and soldered. Prime scupper and allow to dry.
 4. Fasten flange of scupper box every 3 inches (76 mm) o.c. staggered.
 5. Strip in flange scupper box with base flashing ply covering entire area with 6 inch (152 mm) overlap on to the field of the roof and wall flashing.
 6. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 7. Install a second ply of thermoplastic flashing cap ply heat welded over the thermoplastic cap ply, 9 inches (228 mm) on to the field of the roof.

8. Heat weld a cover strip over all seams.
- H. Pre-manufactured Snap-On Coping Cap:
1. Install miters first.
 2. Position base flashing ply over the wall edge covering nailers completely, fastening 8 inches on center. Install base ply and thermoplastic cap ply with proper material and procedure according to manufacturer's recommendations.
 3. Install minimum 16 gauge, 16 inch long by specified width anchor chair at [Contact Garland Representative] feet on center.
 4. Install 6 inch wide splice plate by centering over 16 inch long by specified width anchor chair. Apply two beads of sealant to either side of the splice plate's center. Approximately 2 inches from the coping cap joint. Install Coping Cap by hooking outside hem of coping on outside face of anchor chair. Press downward on inside edge of coping until "snap" occurs and hem is engaged on the entire chair.
- I. Base Flashing For Non-Supported Deck:
1. Inspect the nailer to assure proper attachment and configuration. The wood cant strip should be mechanically attached to the vertical and horizontal wood nailers.
 2. Install compressible insulation in neoprene cradle between wall and vertical wood nailer.
 3. Prime vertical wall and allow to dry.
 4. Set cant in bitumen. Run all base field plies over cant a minimum of 2 inches (50 mm).
 5. Install base flashing ply covering entire wall and wrapped to top of wood nailer with 6 inches (152 mm) on to base field ply. Nail membrane at 8 inches (203 mm) o.c. at the top of the wood nailer.
 6. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 7. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof and run over the top of the wood nailer and secured 8 inches (203 mm) o.c..
 8. Attach counterflashing through wall flashing at a spacing of 24 inches (609 mm) o.c.
- J. Manufactured Wall Panel W/Modified Roof/Flashing (Slip Flashing):
1. Minimum flashing height is 8 inches (203 mm) above finished roof height. Prime vertical wall and allow to dry.
 2. Set cant in bitumen. Run all base field plies over cant a minimum of 2 inches (50 mm).
 3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to the base field ply and set in bitumen.
 4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
 6. Install manufacturer's standard hat channel into the top of the modified membrane to act as a termination bar.
 7. Install hat channels vertically spaced up the wall and fastened in accordance with the wind uplift calculation requirements.
 8. Install the uppermost hat channel at the bottom edge of the coping cap. Insert rigid insulation between the hat channels. Place manufacturer's standard seam tape on top of all hat channels.
 9. Fasten the first manufactured wall panel vertically plumb and fasten every) inches (152 mm) o.c.
 10. Install adjoining panels by engaging the opposing interlocking seam and fastening as described above.
 11. Complete inside and outside corners by installing pre-fabricated corners or job site braking a full width panel to accommodate the corner, so that the sides engage the lock of the panels to the corner areas.
 12. Trim excess seam tape and seam raw edges with manufacturer's recommended sealant.

13. Fasten slip flashing to existing coping cap with a waterproof rivet every 24 inches (609 mm) o.c. to act as a counterflashing over the manufactured wall panel.

K. Expansion Joint:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Chamfer top of curb. Prime vertical curb and allow to dry.
2. Mechanically attach wood cant to expansion joint nailers. Run all base field plies over cant a minimum of 2 inches (50 mm).
3. Install compressible insulation in neoprene cradle.
4. Install base flashing ply covering curb set in bitumen with 6 inches (152 mm) on to field of the roof.
5. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
6. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
7. Install pre-manufactured expansion joint cover. Fasten sides at 12 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.

L. Area Divider:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical curb at a rate of 100 square feet per gallon and allow to dry.
2. Set cant in bitumen. Run all base field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to the base field ply and set in bitumen.
4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
6. Install pre-manufactured cover. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers through slotted holes. Furnish all joint cover laps with butyl tape between metal covers.

M. Equipment Support:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical and allow to dry.
2. Set cant in bitumen. Run all base field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering the curb set in bitumen with 6 inches (152 mm) on to the base field ply and set in bitumen.
4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
6. Install pre-manufactured cover. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
7. Set equipment on neoprene pad and fasten as required by equipment manufacturer.

N. Curb Detail/Air Handling Station:

1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical and allow to dry.
2. Set cant in bitumen. Run all base field plies over cant a minimum of 2 inches (50 mm).
3. Install base flashing ply covering the curb set in bitumen with 6 inches (152 mm) on to the base field ply and set in bitumen.
4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches

- (228 mm) on to the field of the roof.
6. Install pre-manufactured counterflashing with fasteners and neoprene washers or per manufacturer's recommendations.
 7. Set equipment on neoprene pad and fasten as required by equipment manufacturer.
- O. Skylight:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical and allow to dry.
 2. Set cant in bitumen. Run all base field plies over cant a minimum of 2 inches (50 mm).
 3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to the base field ply and set in bitumen.
 4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
 6. Install pre-manufactured lens and fasten flashing sides at 8 inches (203 mm) o.c. with fasteners and neoprene washers.
- P. Skylight With Protection Screen:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical and allow to dry.
 2. Set cant in bitumen. Run all base field plies over cant a minimum of 2 inches (50 mm).
 3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to the base field ply and set in bitumen.
 4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
 6. Install pre-manufactured lens and fasten flashing sides at 8 inches (203 mm) o.c. with fasteners and neoprene washers.
 7. Install OSHA compliant, compression mounted skylight protection screen per membranes manufacturer's written instructions.
- Q. Pre-manufactured Curb For Equipment Support:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical and allow to dry.
 2. Run all base field plies over the pre-manufactured cant a minimum of 2 inches (50 mm).
 3. Install base flashing ply covering the pre-manufactured curb set in bitumen with 6 inches (152 mm) on to the base field ply and set in bitumen.
 4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
 6. Install pre-manufactured cover. Fasten sides at 24 inches (609 mm) o.c. with fasteners and neoprene washers. Furnish all joint cover laps with butyl tape between metal covers.
 7. Set equipment on neoprene pad and fasten as required by equipment manufacturer.
- R. Exhaust Fan:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical and allow to dry.
 2. Set cant in bitumen. Run all base field plies over cant a minimum of 2 inches (50 mm).
 3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to the base field ply and set in bitumen.
 4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches

- (228 mm) on to the field of the roof.
6. Install metal exhaust fan over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendation.
- S. Passive Vent/Air Intake:
1. Minimum curb height is 8 inches (203 mm) above finished roof height. Prime vertical and allow to dry.
 2. Set cant in bitumen. Run all base field plies over cant a minimum of 2 inches (50 mm).
 3. Install base flashing ply covering wall set in bitumen with 6 inches (152 mm) on to the base field ply and set in bitumen.
 4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
 5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
 6. Install passive vent/air intake over the wood nailers and flashing to act as counterflashing. Fasten per manufacturer's recommendations.
- T. Roof Drain:
1. Plug drain to prevent debris from entering plumbing.
 2. Taper insulation to drain minimum of 24 inches (609 mm) from center of drain.
 3. Run roof system base plies over drain. Cut out plies inside drain bowl.
 4. Set lead/copper flashing (30 inch square minimum) in 1/4 inch bed of mastic. Run lead/copper into drain a minimum of 2 inches (50 mm). Prime lead/copper and allow to dry.
 5. Install base flashing ply (40 inch square minimum) in bitumen.
 6. Install thermoplastic cap ply (48 inch square minimum) in bitumen or foam adhesive.
 7. Install clamping ring and assure that all plies are under the clamping ring.
 8. Remove drain plug and install strainer.
- U. Plumbing Stack:
1. Minimum stack height is 12 inches (609 mm).
 2. Run roof base ply over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
 3. Prime flange of new sleeve. Install properly sized sleeves set in 1/4 inch (6 mm) bed of roof cement.
 4. Install base flashing ply in bitumen.
 5. Install thermoplastic cap ply in bitumen or foam adhesive.
 6. Caulk the intersection of the membrane with elastomeric sealant.
 7. Turn sleeve a minimum of 1 inch (25 mm) down inside of stack.
- V. Heat Stack:
1. Minimum stack height is 12 inches (609 mm).
 2. Run roof base ply over the entire surface of the roof. Seal the base of the stack with elastomeric sealant.
 3. Prime flange of new sleeve. Install properly sized sleeves set in 1/4 inch (6 mm) bed of roof cement.
 4. Install base flashing ply in bitumen.
 5. Install thermoplastic cap ply in bitumen or foam adhesive.
 6. Caulk the intersection of the membrane with elastomeric sealant.
 7. Install new collar over cape. Weld collar or install stainless steel draw brand.
- W. Pitch Pocket:
1. Run all base plies up to the penetration.
 2. Place the pitch pocket over the penetration and prime all flanges.
 3. Strip in flange of pitch pocket with one ply of base flashing ply. Extend 6 inches (152 mm) onto field of roof.
 4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam

adhesive.

5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
6. Fill pitch pocket half full with non-shrink grout. Let this cure and top off with pourable sealant.
7. Caulk joint between roof system and pitch pocket with elastomeric sealant.

X. Pitch Pocket Umbrella:

1. Run all base plies up to the penetration.
2. Place the pitch pocket over the penetration and prime all flanges.
3. Strip in flange of pitch pocket with one ply of base flashing ply. Extend 6 inches (152 mm) onto field of roof.
4. Then install thermoplastic cap field ply run over the base flashing ply in bitumen or foam adhesive.
5. Install the thermoplastic flashing ply in bitumen or foam over the base flashing ply, 9 inches (228 mm) on to the field of the roof.
6. Fill pitch pocket half full with non-shrink grout. Let this cure and top off with pourable sealant.
7. Caulk joint between roof system and pitch pocket with elastomeric sealant.
8. Place a watershedding type bonnet over the top of the pitch pocket and clamp the top with a drawband collar. Caulk the upper edge of the band with an elastomeric sealant.

3.6 CLEANING

- A. Clean-up and remove daily from the site all wrappings, empty containers, paper, loose particles and other debris resulting from these operations.
- B. Remove asphalt markings from finished surfaces.
- C. Repair or replace defaced or disfigured finishes caused by Work of this section.

3.7 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.8 FIELD QUALITY CONTROL

- A. Inspection: Provide manufacturer's field observations at start-up and at intervals of approximately 30 percent, 60 percent and 90 percent completion. Provide a final inspection upon completion of the Work.
 1. Warranty shall be issued upon manufacturer's acceptance of the installation.
 2. Field observations shall be performed by a Sales Representative employed full-time by the manufacturer and whose primary job description is to assist, inspect and approve membrane installations for the manufacturer.
 3. Provide observation reports from the Sales Representative indicating procedures followed, weather conditions and any discrepancies found during inspection.
 4. Provide a final report from the Territory Manager Sales Representative, certifying that the

roofing system has been satisfactorily installed according to the project specifications, approved details and good general roofing practice.

3.9 PROTECTION

- A. Provide traffic ways, erect barriers, fences, guards, rails, enclosures, chutes and the like to protect personnel, roofs and structures, vehicles and utilities.
- B. Protect exposed surfaces of finished walls with tarps to prevent damage.
- C. Plywood for traffic ways required for material movement over existing roofs shall be not less than 5/8 inch (16 mm) thick.
- D. In addition to the plywood listed above, an underlayment of minimum 1/2 inch (13 mm) recover board is required on new roofing.
- E. Special permission shall be obtained from the Manufacturer before any traffic shall be permitted over new roofing.

3.10 SCHEDULES

- A. Base (Ply) Sheet:
 - 1. FlexBase Plus 80: 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass and polyester composite scrim, performance requirements according to ASTM D 5147.
 - a. Tensile Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 310 lbf/in XD 310 lbf/in
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 54.25 kN/m XD 54.25 kN/m
 - b. Tear Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 650 lbf XD 650 lbf
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 2891 N XD 2891 N
 - c. Elongation at Maximum Tensile, ASTM D5147
 - 1) 2 in/min. @ 73.4 +/- 3.6F MD 8% XD 8%
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 8% XD 8%
 - d. Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-34.4 deg. C)
- B. Thermoplastic/Modified Cap (Ply) Sheet:
 - 1. KEE-Stone FB 60: 60 mil thermoplastic, ketone ethylene ester (KEE) roofing membrane with polyester scrim. ASTM D6754
 - a. Breaking Strength, ASTM D 751, Proc. B, strip
 - 1) 375 lbf. (1,668 N)
 - b. Tear Strength ASTM D 751
 - 1) 120 lbf. min. (534 N)
 - c. Elongation at Break (%), ASTM D 751, Proc. B, Strip
 - 1) 40.0%
- C. Interply Adhesive:
 - 1. Green-Lock Plus Membrane Adhesive: Cold applied solvent free membrane adhesive: zero V.O.C. compliant performance requirements:
 - a. Non-Volatile Content ASTM D 4586 100%
 - b. Density ASTM D 1475 12.3 lbs./gal. (1.47 g/cm³)
 - c. Viscosity Brookfield Spindle T-E at 5 rpm 124,000 cPs.
 - d. Flash Point ASTM D 93 400 deg. F min. (232 deg. C)
 - e. Slope: up to 3:12

2. Green-Lock Plus White Adhesive: High-performance, moisture-cured polymer, white adhesive used to construct cold process roofing systems on single or multiple plies of Garland-approved base sheets and Garland-approved membranes.
 - a. Non-Volatile Content ASTM D 4586 100%
 - b. Density ASTM D 1475 12.8 lbs./gal. (1.47 g/cm³)
 - c. Viscosity Brookfield Spindle T-E at 5 rpm 60,000 cPs.
 - d. Flash Point ASTM D 93 400 deg. F min. (232 deg. C)
 - e. Slope: up to 3:12
 3. KEE-Lock Foam: Dual component, single bead (ribbon applied) urethane insulation/membrane adhesive.
 - a. Tensile Strength (ASTM D 412) 250 psi
 - b. Density (ASTM D 1875) 8.5 lbs./gal.
 - c. Viscosity (ASTM D 2556) 22,000 - 60,000 cP
 - d. Peel Strength (ASTM D 903) 17 lb./in.
 - e. Flexibility (ASTM D 816) Pass @ -70 deg. F (-56.7 deg. C)
- D. Flashing Base Ply:
1. FlexBase Plus 80: 80 mil SBS (Styrene-Butadiene-Styrene) rubber modified roofing base sheet reinforced with a fiberglass and polyester composite scrim, performance requirements according to ASTM D 5147.
 - a. Tensile Strength, ASTM D5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 310 lbf/in XD 310 lbf/in
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 54.25 kN/m XD 54.25 kN/m
 - b. Tear Strength, ASTM D 5147
 - 1) 2 in/min. @ 73.4 +/- 3.6 deg. F MD 500 lbf XD 500 lbf
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 2224 N XD 2224 N
 - c. Elongation at Maximum Tensile, ASTM D5147
 - 1) 2 in/min. @ 73.4 +/- 3.6F MD 8% XD 8%
 - 2) 50 mm/min. @ 23 +/- 2 deg. C MD 8% XD 8%
 - d. Low Temperature Flexibility, ASTM D 5147, Passes -30 deg. F (-34.4 deg. C)
- E. Flashing Ply Adhesive:
1. KEE-Lock Foam: Dual component, single bead (ribbon applied) urethane insulation/membrane adhesive.
 - a. Tensile Strength (ASTM D 412) 250 psi
 - b. Density (ASTM D 1875) 8.5 lbs./gal.
 - c. Viscosity (ASTM D 2556) 22,000 - 60,000 cP
 - d. Peel Strength (ASTM D 903) 17 lb./in.
 - e. Flexibility (ASTM D 816) Pass @ -70 deg. F (-56.7 deg. C)
 2. Green-Lock Plus Flashing Adhesive: Cold applied solvent free flashing adhesive: zero V.O.C.
 - a. Non-Volatile Content ASTM D 4586 100%
 - b. Density ASTM D 1475 11.8 lbs./gal. (1.17 g/cm³)
 - c. Viscosity Brookfield 400,000 cPs.
 - d. Flash Point ASTM D 93 400 deg. F min. (232 deg. C)
- F. Surfacing:
1. Flashing Cap (Ply) Sheet:
 - a. KEE-Stone FB 60 Flashing: 60 mil thermoplastic, ketone ethylene ester (KEE) roofing membrane with polyester scrim. ASTM D 6754.
 - 1) Breaking Strength, ASTM D 751, Proc. B, strip
 - a) 378 lbf
 - 2) Tear Strength ASTM D 751
 - a) 120 lbf. minimum.
 - 3) Elongation at Break (%), ASTM D 751, Proc. B, Strip
 - a) 40.0%

END OF SECTION

SECTION 07 62 00
SHEET METAL FLASHING & TRIM

PART 1 - GENERAL

1.1 SCOPE OF WORK

- A. Fabricated sheet metal items, including flashings, counterflashings, gutters, downspouts, and other items indicated in Schedule and as follows:
 - 1. Edge strip and flashing.
 - 2. Counterflashings for roof accessories, roof mounted equipment, vent stacks and similar items.
 - 3. Gutters, gutter straps, gutter hangers, drop outlets and screens.
 - 4. Coping Cap
- B. Sealants for joints within sheet metal fabrications.

1.2 RELATED SECTIONS

- A. Drawings and general provisions of the Contract, including General Supplementary Conditions and Division 1 Specification Sections apply to this section.
- B. Coordinate with related work specified elsewhere:
 - 1. Division 6 Section "Rough Carpentry" for wood blocking and nails.
 - 2. Division 7 Section "Modified Bitumen Roofing".
 - 3. Division 7 Section "Standing Seam Metal Roofing".

1.3 REFERENCE

- A. ASTM A792/A792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.
- B. ASTM D1970/D1970M - Standard Specification for Self-Adhering Polymer Modified Bituminous Sheet Materials Used as Steep Wall Underlayment for Ice Dam Protection.
- C. ASTM E96/E96M - Standard Test Methods for Water Vapor Transmission of Materials.
- D. ASTM E1646 - Standard Test Method for Water Penetration of Exterior Metal Wall Panel Systems by Uniform Static Air Pressure Difference.
- E. ASTM E1680 - Standard Test Method for Rate of Air Leakage Through Exterior Metal Wall Panel Systems.
- F. California Code of Regulations, Title 24, Part 2, California Building Code (CBC), International Building Code
- G. California Code of Regulations, Title 24, Part 11 California Green Building Standards Code, "CAL-Green".
- H. Sheet Metal and Air Conditioning Contractors National Association: "Architectural Sheet Metal Manual".
- I. ASTM E108 – Standard Test Methods Fire Tests of Wall Coverings.
- J. ASTM E1592 Standard Test Method for Structural Performance of Sheet Metal Wall and Siding Systems by Uniform Static Air Pressure Difference.
- K. American Society of Civil Engineers (ASCE):
 - 1. ASCE 7-10 Minimum Design Loads for Buildings and Other Structures.

1.4 SUBMITTALS

- A. Provide the following to the Owner prior to award of wall work.
 - 1. Written certification from the wall system manufacturer corporate officer certifying that the applicator is currently approved for installation of the specified wall system.
 - 2. Descriptive product data including SDS sheets.

3. Sample copy of contractor's workmanship warranty.
 4. Sample copy of specified Manufacturer's warranty.
 5. Sample copy of Manufacturer's Architectural indemnification Agreement.
- B. **PRODUCT DATA:** Submit brochures containing material samples, SDS, schedules, charts, literature, and illustrations to indicate the performance, fabrication procedures, product variations, and accessories.
1. Within four (4) weeks of award of contract, submit:
 - a. Minimum of two (2) samples of each material and descriptive literature.
 - b. All other data and information to satisfy requirements of manufacturer on warranty needs.
 - c. A written statement from the materials manufacturer's corporate officer approving the installer and stating the intent to guarantee the completed project as specified.
 - d. Samples of proposed warranty complete with any addenda necessary to meet the warranty requirements as specified.
 - e. Certified copy of ISO 9001 compliance.
- C. **SHOP DRAWINGS:** Indicate size and materials. Show locations and installation procedures. Include details of joints, attachments, fastening patterns, and clearances. Submit 1 electronic original and retain approved copies at the Site.
- D. **MAINTENANCE PROCEDURES:** Upon substantial completion of the project, deliver to Owner three (3) copies of manufacturer's printed instructions regarding care and maintenance of wall.
- E. **Wind uplift calculation:** ANSI SPRI metal edge system manufacturer's engineering department shall provide an ASCE 7-10 calculation per CBC, Chapter 15. Calculations shall be stamped by a CA licensed structural engineer.
- F. **Litigation and settlements:** provide a notarized statement from a corporate officer stating wall system manufacturer has not settled litigation or paid fines to a public agency in excess of \$20 million dollars.

1.5 QUALITY ASSURANCE

- A. **Manufacturer Qualifications:** Wall system manufacturer shall have a minimum of 10 years experience in manufacturing wall products in the United States and be ISO 9001 certified.
- B. **Installer Qualifications:** Installer (Wall) shall be specializing in wall application with minimum 5 years experience and who is certified by the system manufacturer as qualified to install manufacturer's wall materials.
- C. **Regulatory Requirements:**
1. System shall be installed in accordance with ASCE-7 wind uplift requirements for geographical location and a 120 MPH 3-second gust wind speed zone with an importance factor of 1.15 based on IBC requirements. Wind-resistance loads listed below have a safety factor of 2.0 incorporated into the calculation.
 2. Follow local, state, and federal regulations of safety standards and codes. Refer to applicable building code or International Building Code for wall system installation requirements and limitations.
- D. **Installer's Field Supervision:** Require Installer to maintain a full-time Supervisor/Forman on job site during all phases of work and at any time work is in progress, proper supervision of workmen shall be maintained. A copy of the specification shall be in the possession of the Supervisor/Foremen at all times.
- E. It shall be the Contractor's responsibility to respond immediately to correction of wall leakage during construction.
- F. **Disqualification of Bidders:** A bidder can be disqualified by the Architect or Owner for any of the following reasons, but not limited to:
1. The failure to attend the Pre-Bid conference at the time and place so described under Bidding Dates.
 2. Incorrect use of the "Proposal" as provided by the Architect/Owner. Any changes in said format shall be accepted by the Architect/Owner only when requested and approved in writing prior to the bid opening. Changes in the Proposal after the opening of the

bids will not be accepted.

3. Lack of proficiency as shown by past work or incomplete work under other contracts which, in the judgement of the Architect/Owner might hinder or prevent the prompt completion of additional work if so awarded or any involvement in any legal actions which relate to past or present performance. This includes, but is not limited to lawsuits, court appointed actions, and/or ongoing litigation.

G. Pre-installation Wall Conference: Approximately 2 weeks before scheduled of commencement of wall system and associated work, meet at Project site with Installer, installer of each component of associated work, installers of deck or substrate construction to receive wall work, installers of walltop units and other work in the around wall that must precede or follow wall work (including mechanical work if any), Architect/Owner, wall system manufacturer's representative, and other representatives directly concerned with performance of the Work, including (where applicable) Owner's insurers, test agencies, and governing authorities. Objectives to include:

1. Review foreseeable methods and procedures related to wall work.
Tour representative areas of substrates (decks), inspect and discuss condition of substrate, penetrations, and other preparatory work performed by other trades.
2. Review structural loading limitations of deck and inspect deck for loss of flatness and for required attachment.
3. Review systems requirements (drawings, specifications, and other contract documents).
4. Review required submittals, both completed and yet to be completed.
5. Review and finalize construction schedule related to work and verify availability of materials, Installer's personnel, equipment, and facilities needed to make progress and avoid delays.
6. Review required inspection, testing, certifying, and material usage accounting procedures.
7. Review weather and forecasted weather conditions and procedures for coping with unfavorable conditions, including possibility of temporary wall (if not a mandatory requirement).
8. Record (contractor) discussion of conference, including decisions and agreements (or disagreements) reached, and furnish copy of record to each party attending. If substantial disagreements exist at conclusion of conference, determine how disagreements will be resolved and set date for reconvening conference.
9. Review notification procedures for weather or non-working days.

1.6 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site with seals and labels intact, in manufacturer's original containers, dry and undamaged.
- B. Store and handle wall sheets in a dry, well-ventilated, weather-tight place to ensure no possibility of significant moisture exposure. Store rolls of felt and other sheet materials on pallets or other raised surface. Stand all roll materials on end. Cover roll goods with a canvas tarpaulin or other breathable material (not polyethylene).
- C. Do not leave unused rolled goods exposed overnight or when work is not in progress unless protected from weather and other moisture sources.
- D. Handle and store materials or equipment in a manner to avoid significant or permanent deflection of deck.

1.7 MANUFACTURER'S INSPECTIONS

- A. When the project is in progress, the System Manufacturer will provide the following:
 1. Keep the Architect informed as to the progress and quality the work as observed.
 2. Provide job site inspections minimum three days per week by a full time employee of the manufacturer.
 3. Report to the Architect in writing, any failure or refusal of the Contractor to correct unacceptable practices called to the Contractor's attention.
 4. Confirm, after completion of the project and based on manufacturer's observations and tests, that manufacturer has observed no applications procedures in conflict with the specifications other than those that may have been previously reported and corrected.

1.8 PROJECT CONDITIONS

- A. Weather Condition Limitations: Do not apply wall membrane during inclement weather or when a 30% chance of precipitation is expected.

- B. Do not apply wall insulation or membrane to damp deck surface.
- C. Do not expose materials vulnerable to water or sun damage in quantities greater than can be weatherpalled during same day.
- D. Proceed with wall work only when existing and forecasted weather conditions will permit unit of work to be installed in accordance with manufacturer's recommendations and warranty requirements.

1.9 SEQUENCING AND SCHEDULING

- A. Sequence installation of modified bituminous sheet wall with related units of work specified in other sections to ensure that wall assemblies, including wall accessories, flashing, trim, and joint sealers, are protected against damage from effects of weather, corrosion, and adjacent construction activity.
- B. All work must be fully completed on each day. Phased construction will not be accepted.

1.10 WARRANTY

- A. Membrane Manufacturer upon completion of installation, and acceptance by the Owner and Architect, the manufacturer will supply to the Owner the Twenty (20) Year finish warranty.
 - 1. Warranty shall cover the calculated wind speed.
 - 2. Sole source warranty for modified bitumen, metal wall, metal wall panels, single ply membrane and penetration flashing material.
- B. Contractor will submit a minimum of a 5 year warranty to the membrane manufacturer with a copy directly to Owner.
- C. Membrane manufacturer will provide an annual inspection at the annual request of the owner for the life of the warranty.

PART 2 PRODUCTS

2.1 GENERAL

- A. When a particular trade name or performance standard is specified it shall be indicative of a standard required.
 - 1. Design is based on R-mer Force Edge Metal and R-mer Coping, manufactured by Garland Co.
 - 2. Pre-approved equal as noted below.
- B. Provide products as specified. Prime bidding contractors proposing substitutes shall submit all required submittal information under 07 60 00, PART 1, 1.4 to The Owner's representative at least 10 days prior to bid due date. All substitutions have to be approved prior to bidding. No substitutions will be accepted after bidding or contract award. All bidders will have an opportunity to bid on any substitute system that is approved. Substitution requests will not be accepted from anyone other than prime bidding contractors who have attended the prebid walkthrough.
- C. Any item or materials submitted as an alternate to the manufacturer specified must comply in all respects as to the quality and performance, including job site investigation of the brand name specified. The Owner shall be the sole judge as to whether or not an item submitted as an equal is truly equal. Should the contractor choose to submit on the equal basis, he shall assume all risk involved, monetary or otherwise, should the Owner find it unacceptable. The Contractor is warned to obtain prior approval at least ten days prior to bid date of any material not specified. The following must be included for materials submitted for substitutions: (five copies)
 - 1. Complete data substantiating compliance of proposed substitution with Contract Documents.
 - 2. For products:
 - a. Product identification, including manufacturer's literature and manufacturer's name and address.
 - b. Material Safety Data Sheets providing all pertinent data as to flammability, combustibility, toxicity, etc.
 - c. List of at least five (5) local jobs within 50 miles, where the proposed alternate material was used under similar conditions. These jobs must be available for inspection by the Owner. Names, phone numbers, and a copy of

manufacturer's warranty on each job are required for verification.

- d. Notarized statement from the System Manufacturer, signed by a corporate officer of the Corporation with the Corporate Seal affixed thereto stating in writing that:
- All Bidding Documents have been inspected.
 - The project site has been inspected.
 - The wall system manufacturer will provide field inspections on a daily basis, on during, and until all construction work is completed and accepted by the Owner. Inspections shall be performed by a full time employee of the manufacturer. These inspections shall be provided to the Owner at no charge.
 - Furnish the 30 year warranty as stipulated in the Contract Documents.

3. For construction methods:
 - a. Detailed description of proposed method.
 - b. Drawings illustrating methods.
4. Itemized comparison of proposed substitution with product or method specified.
5. Data related to changes in construction schedule.
6. Relation to separate contracts.

- D. In making request for substitution, Bidder / Contractor represents:
1. He has personally investigated proposed product or method, and determined that it is equal or superior in all respects to that specified.
 2. He will provide the same guarantee for substitution as for product or method specified.
 3. He will coordinate installation of accepted substitution in work, making such changes as may be required for work to be completed in all respects.
 4. He waives all claims for additional cost related to substitution which consequently become apparent.
 5. Cost data is complete and includes all related cost under his contract or other contracts which may be affected by the substitution.
 6. He will reimburse the Owner for all redesign cost substitute may require.
- E. Substitutions will not be considered if:
1. Product or method to be considered does not have a minimum of ten (10) years of successful performance of system applications in the United States.
 2. Any discrepancies in the test data, or if the tests or submittals are incomplete.
 3. They are indicated or implied on Shop Drawings or Project Data Submittals without formal request submitted in accordance with Paragraph 2.01.
 4. Acceptance will require substantial revision of Contract Documents.

2.2 MATERIALS

- A. Materials: Minimum gauge of steel or thickness of Aluminum to be specified in accordance with Architectural Sheet Metal Manual, Sheet Metal and Air Conditioning Contractor's National Association, Inc. recommendations.
- B. R-Mer Force Flash-less Snap-On Fascia Cover and Splice Plate
1. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 22 gauge, chemically treated, commercial quality.
- C. R-Mer Edge Coping Cap Cover and Splice Plate
1. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 22 gauge, chemically treated, commercial quality.
- D. Gutters:
1. Aluminum, ASTM B209, alloy 3105-H14, in thickness of 0.040" nom. for a 4" face or 0.050" nom. for larger than 4".
- E. R-Mer Edge Coping Chairs
1. Zinc-coated steel, ASTM A653, coating designation G-90, in thickness of 0.0635 nom./ 16 gauge, 36" to 48" by coil length, chemically treated, commercial or lock-forming quality.

- F. Finishes
1. Exposed surfaces for coated panels:
 - a. Steel Finishes: fluorocarbon finish. Epoxy primer baked both sides, .2-.25 mils thickness as approved by finish coat manufacturer. Weathering finish as referred by National Coil Coaters Association (NCCA).

PROPERTY	TEST METHOD	FLUOROCARBON*
Pencil Hardness	ASTM D3363 NCCA II-2	HB-H
Bend	ASTM D-4145 NCCA II-19	O-T
Cross-Hatch Adhesion	ASTM D3359	no loss of adhesion
Gloss (60° angle)	ASTM D523	25+/-5%
Reverse	ASTM D2794	no cracking or loss of Impact adhesion
Nominal Thickness	ASTM D1005 Primer Topcoat	0.2 mils 0.8 mils

TOTAL 1.0 mils

2.
 - b. Color shall be as specified
 Exposed and unexposed surfaces for mill finish flashing, fascia, and coping cap, shall be as shipped from the mil

2.3 RELATED MATERIALS AND ACCESSORIES

- A. Metal Primer: Zinc chromate type.
- B. Plastic Cement: ASTM D 4586
- C. Sealant:
 1. Reglet and general use: TiteBond by IMETCO.
 2. Flashless edge metal system: GreenLock Sealant XL structural sealant by Garland.
- D. Underlayment: R-mer Seal by Garland.
- E. Fasteners:
 1. Corrosion resistant screw fastener as recommended by metal manufacturer. Finish exposed fasteners same as flashing metal.
 2. Fastening shall conform to Factory Mutual requirements or as stated on section details, whichever is more stringent.
- F. Gutter and Downspout Anchorage Devices: Material as specified for system.
- G. Gutter Supports: Straps. Fabricate from material of double thickness of gutter fabrication, minimum.
- H. Wire bulb strainers for gutters: stainless steel wire bulb.
- I. Gutter screens: powder coated aluminum.
 1. www.greengutterscreens.com or approved equal.

PART 3 EXECUTION

3.1 EXAMINATION

- A. Do not begin installation of preformed metal system until substrates have been properly prepared.
 1. Determine if work of other trades which penetrates the system.

2. Verify pipes, sleeves, or vents through system are solidly set, reglets are in place, and nailing strips located.
 3. Verify system termination, base flashings and gutter flanges are in place, sealed, and secure.
 4. Notify Architect in writing if substrates are not suitable for application of panel system.
 5. Do not proceed with installation until substrates are acceptable.
- B. Structural surfaces: Smooth, even, sound, surface dry 19 percent maximum, clean and free of depressions, waves, or projections before material is applied.
1. Examine the alignment and placement of the building structure and substrate. Correct any objectionable warp, waves or buckles in the substrate before proceeding with installation of the preformed metal system. The installed system will follow the contour of the structure and may appear irregular if not corrected.
 - b. Apply no materials during wet weather or on wet surface.

3.2 INTERFACE WITH OTHER WORK

- A. Coordinate with system accessories, miscellaneous sheet metal accessories, piping vents and other items specified in related sections penetrating metal system work. Avoid conflict or omission in waterproofing systems and provide watertight installation.

3.3 PREPARATION

- A. Verify field dimensions prior to ordering materials.
1. Establish straight side and crosswise benchmarks.
 2. Check rectangular walls for squareness and straightness. Gable ends may not be straight; set a true line for the gable clips and flashing with stringline.
- B. Broom clean wood sheathing prior to installation of system.
- C. Coordinate system work with provisions for system drainage, flashing, trim, penetrations, and other adjoining work to assure that the completed system will be free of leaks.
- D. Remove protective film from surface of system immediately prior to installation. Strip film carefully, to avoid damage to prefinished surfaces.
- E. Separate dissimilar metals by applying a bituminous coating, self-adhering rubberized asphalt sheet, or other permanent method approved by system manufacturer.
- F. Where metal will be in contact with wood or other absorbent material subject to wetting, seal joints with sealing compound and apply one coat of heavy-bodied bituminous paint.

3.4 MANUFACTURED SHEET METAL SYSTEMS

- A. Furnish and install manufactured fascia and coping cap systems in strict accordance with manufacturer's printed instructions.
- B. Provide factory-fabricated accessories including, but not limited to, fascia extenders, miters, scuppers, joint covers, etc. refer to Source limitation provision in Part 1.

3.5 SHOP-FABRICATED SHEET METAL

- A. Metal work shall be shop fabricated to configurations and forms in accordance with recognized sheet metal practices.
- B. Hem exposed edges.
- C. Angle bottom edges of exposed vertical surfaces to form drip.
- D. Lap corners with adjoining pieces fastened and set in sealant.
- E. Form joints for gravel stop fascia system, coping cap with a 3/8" opening between sections. Back the opening with an internal drainage plate formed to the profile of fascia piece.
- F. Install sheet metal to comply with referenced ANSI/SPRI, SMACNA and NRCA standards.
- G. Fabricate minimum 20' lengths.

3.6 FLASHING MEMBRANE INSTALLATION

- A. Scupper Through Roof Edge

1. Install scupper box in a one fourth (1/4) inch bed of mastic. Assure all box seams are soldered and have minimum four (4) inch flange. Make sure all corners are closed and soldered.
 2. Prime metal edge at a rate of one hundred (100) square feet per gallon and allow to dry.
- B. Flash-less Snap-On Fascia Detail with Extruded Aluminum Base Anchor
1. Position base plies of the Built-Up and/or Modified Roofing membrane over the roof edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations. Cap sheet shall stop at the edge of the roof and shall not turn over the edge of the nailer.
 2. Extruded base anchor: Apply two 1/4" beads of GreenLock Sealant XL on the bottom surface of the top flange of the extruded anchor. This equate to one cartridge per 10' section.
 3. Set the extruded anchor on the edge and face fasten through pre-punched slots every 12 inches o.c. for the 5.75 inch face fascia, and 12 inches o.c. staggered for any fascia size greater than 5.75 inches.
 4. Install compression seals every 40" o.c. in the slots located at the top of the extruded anchor.
 5. Install fascia cover by hooking the cover over the back hook of the extruded anchor. Rotate the cover forward and when in the vertical position, press downward firmly until "snap" occurs and cover is engaged along entire length of miter.
 6. Install splice plate at each end of the extruded anchor.
- C. Edge Metal With Gutter
1. Positions base plies of the Built-Up and/or Modified Roofing membrane over the roof edge covering nailers completely, fastening eight (8) inches on center. Install manufacturer's membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
 2. Install gutter and strapping fastening six (6) inches on center.
 3. Set metal flange into roofing cement, nail every three (3) inches on center, and prime at a rate of one hundred (100) square feet per gallon.
 4. Strip in edge metal with base flashing membrane extending six (6) inches into roof field, followed with a cap sheet extending nine (9) inches into the roof field. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
- D. Snap-On Coping Cap Detail
1. Install Miters first.
 2. Position base flashing of the Built-Up and/or Modified Roofing membrane over the wall edge covering nailers completely, fastening eight (8) inches on center. Install membrane and cap sheet with proper material and procedure according to manufacturer's recommendations.
 3. Install minimum sixteen (16) gauge, sixteen (16) inch long by specified width anchor chair at [Contact Garland Representative] feet on center.
 4. Install six (6) inch wide splice plate by centering over sixteen (16) inch long by specified width anchor chair. Apply two beads of sealant to either side of the splice plate's center. Approximately two (2) inches from the coping cap joint. Install Coping Cap by hooking outside hem of coping on outside face of anchor chair. Press downward on inside edge of coping until "snap" occurs and hem is engaged on the entire chair.

3.7 CONSTRUCTION WASTE MANAGEMENT

- A. Remove and properly dispose of waste products generated. Comply with requirements of authorities having jurisdiction.

3.8 FINAL INSPECTION

- A. At completion of installation and associated work, meet with Contractor, Architect, installer, installer of associated work, Owner, roofing system manufacturer's representative, and other representatives directly concerned with performance of roofing system.
- B. Inspect work and flashing of roof penetrations, walls, curbs, and other equipment. List all items requiring correction or completion and furnish copy of list to each party in attendance.
- C. Repair or replace deteriorated or defective work found at time above inspection as required to produce an installation which is free of damage and deterioration at time of Substantial Completion and according to warranty requirements.

- D. Notify the Owner upon completion of corrections.
- E. Following the final inspection, provide written notice of acceptance of the installation from the roofing system manufacturer.
- F. Immediately correct roof leakage during construction. If the Contractor does not respond within twenty-four (24) hours, the Owner will exercise rights to correct the Work under the terms of the Conditions of the Contract.

3.9 DEMONSTRATION AND TRAINING

- A. At a time and date agreed to by the Owner, instruct the Owner's facility manager, or other representative designated by the Owner, on the following procedures:
 - 1. Troubleshooting procedures
 - 2. Notification procedures for reporting leaks or other apparent roofing problems
 - 3. Maintenance
 - 4. The Owner's obligations for maintaining the warranty in effect and force.

3.10 FIELD QUALITY CONTROL

- A. Testing:
 - 1. Re-test until system is shown to be weathertight.
- B. Manufacturer Field Services: Provide daily site inspection for a minimum of one (1) hour during active system operations by an experienced, full time employee of the system manufacturer. Submit written reports weekly.

3.11 CLEANING

- A. Clean exposed sheet metal work at completion of installation. Remove grease and oil films, excess joint sealer, handling marks, and debris from installation, leaving the work clean and unmarked, free from dents, creases, waves, scratch marks, or other damage to the finish.
- B. Touch up minor abrasions and exposed fasteners with matching paint provided by panel manufacturer. Remove and replace panels that cannot be satisfactorily touched up.
 - 1. No exposed sealant or visible raw metal.
- C. Sweep and remove chips, shavings, and dust from system on a daily basis during installation period. Leave installed work clean, free from grease, finger marks and stains.
- D. Upon completion of installation, remove scraps and debris from project site.

3.12 PROTECTION

- A. Provide temporary walkways or planks as necessary to avoid damage to completed work. Protect system until completion of project.
- B. Touch-up, repair, or replace damaged material or accessories before date of Substantial Completion.

END OF SECTION

SECTION 07 72 00
ROOF ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Section Includes:
 - 1. Roof curbs.
 - 2. Equipment supports.
 - 3. Roof hatches.

1.2 ACTION SUBMITTALS

- A. Product Data: For each type of roof accessory.
- B. Shop Drawings: For roof accessories.
- C. Samples: For each exposed product and for each color and texture specified.

1.3 INFORMATIONAL SUBMITTALS

- A. Sample warranties.

1.4 CLOSEOUT SUBMITTALS

- A. Operation and maintenance data.

1.5 WARRANTY

- A. Special Warranty on Painted Finishes: Manufacturer's standard form in which manufacturer agrees to repair finishes or replace roof accessories that show evidence of deterioration of factory-applied finishes within 10 years from date of Substantial Completion.

PART 2 - PRODUCTS

2.1 ROOF CURBS

- A. Roof Curbs: Internally reinforced roof-curb units capable of supporting superimposed live and dead loads, including equipment loads and other construction indicated on Drawings, bearing continuously on roof structure, and capable of meeting performance requirements; with welded or mechanically fastened and sealed corner joints, stepped integral metal cant raised the thickness of roof insulation, and integrally formed deck-mounting flange at perimeter bottom.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:

- a. Adaptable Air Products.
 - b. AES Industries, Inc.
 - c. Greenheck Fan Corporation.
 - d. Roof Curb Systems.
 - e. Vent Products Co., Inc.
- B. Size: Coordinate dimensions with roughing-in information or Shop Drawings of equipment to be supported.
- C. Material: Zinc-coated (galvanized) steel sheet, 0.052 inch thick.
- 1. Finish: Baked enamel or powder coat.
 - 2. Color: As selected by Architect from manufacturer's full range.
- D. Construction:
- 1. Curb Profile: Manufacturer's standard compatible with roofing system.
 - 2. On ribbed or fluted metal roofs, form deck-mounting flange at perimeter bottom to conform to roof profile.
 - 3. Fabricate curbs to minimum height of 12 inches above roofing surface unless otherwise indicated.
 - 4. Top Surface: Level top of curb, with roof slope accommodated by sloping deck-mounting flange.
 - 5. Sloping Roofs: Where roof slope exceeds 1:48, fabricate curb with perimeter curb height tapered to accommodate roof slope so that top surface of perimeter curb is level. Equip unit with water diverter or cricket on side that obstructs water flow.
 - 6. Insulation: Factory insulated with 1-1/2-inch-thick glass-fiber board insulation.
 - 7. Liner: Same material as curb, of manufacturer's standard thickness and finish.
 - 8. Nailer: Factory-installed wood nailer along top flange of curb, continuous around curb perimeter.
 - 9. Wind Restraint Straps and Base Flange Attachment: Provide wind restraint straps, welded strap connectors, and base flange attachment to roof structure at perimeter of curb, of size and spacing required to meet wind uplift requirements.
 - 10. Platform Cap: Where portion of roof curb is not covered by equipment, provide weathertight platform cap formed from 3/4-inch thick plywood covered with metal sheet of same type, thickness, and finish as required for curb.
 - 11. Metal Counterflashing: Manufacturer's standard, removable, fabricated of same metal and finish as curb.
 - 12. Security Grille: Provide where indicated.
 - 13. Damper Tray: Provide damper tray or shelf with opening 3 inches.

2.2 EQUIPMENT SUPPORTS

- A. Equipment Supports: Internally reinforced perimeter metal equipment supports capable of supporting superimposed live and dead loads between structural supports, including equipment loads and other construction indicated on Drawings, spanning between structural supports; capable of meeting performance requirements; with welded corner joints, integral metal cant, and integrally formed structure-mounting flange at bottom.
- 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. Adaptable Air Products.
 - b. AES Industries, Inc.
 - c. Greenheck Fan Corporation.
 - d. Lloyd Industries, Inc.
 - e. Vent Products Co., Inc.

- B. Size: Coordinate dimensions with roughing-in information or Shop Drawings of equipment to be supported.
- C. Material: Zinc-coated (galvanized) steel sheet, 0.052 inch thick.
 - 1. Finish: Baked enamel or powder coat.
 - 2. Color: As selected by Architect from manufacturer's full range.
- D. Construction:
 - 1. Curb Profile: Manufacturer's standard compatible with roofing system.
 - 2. Insulation: Factory insulated with 1-1/2-inch-thick glass-fiber board insulation.
 - 3. Liner: Same material as equipment support, of manufacturer's standard thickness and finish.
 - 4. Nailer: Factory-installed continuous wood nailers 3-1/2 inches wide under top flange on side of curb, continuous around support perimeter.
 - 5. Wind Restraint Straps and Base Flange Attachment: Provide wind restraint straps, welded strap connectors, and base flange attachment to roof structure at perimeter of curb of size and spacing required to meet wind uplift requirements.
 - 6. Platform Cap: Where portion of equipment support is not covered by equipment, provide weathertight platform cap formed from 3/4-inch thick plywood covered with metal sheet of same type, thickness, and finish as required for curb.
 - 7. Metal Counterflashing: Manufacturer's standard, removable, fabricated of same metal and finish as equipment support.
 - 8. On ribbed or fluted metal roofs, form deck-mounting flange at perimeter bottom to conform to roof profile.
 - 9. Fabricate equipment supports to minimum height of 12 inches above roofing surface unless otherwise indicated.
 - 10. Sloping Roofs: Where roof slope exceeds 1:48, fabricate each support with height to accommodate roof slope so that tops of supports are level with each other. Equip supports with water diverters or crickets on sides that obstruct water flow.
 - 11. Security Grille: Provide where indicated on Drawings.

2.3 ROOF HATCH

- A. Roof Hatches: Metal roof-hatch units with lids and insulated double-walled curbs, welded or mechanically fastened and sealed corner joints, continuous lid-to-curb counterflashing and weathertight perimeter gasketing, integral metal cant, and integrally formed deck-mounting flange at perimeter bottom.
 - 1. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 - a. BILCO Company (The).
 - b. Precision Ladders, LLC.
- B. Type and Size: Single-leaf lid, 30 by 36 inches. Contractor to confirm with existing framing & opening to provide the correct hatch size if the new hatch is replacing an existing hatch.
- C. Loads: Minimum 40-lbf/sq. ft. external live load and 20-lbf/sq. ft. internal uplift load.
- D. Hatch Material: Zinc-coated (galvanized) steel sheet.
 - 1. Thickness: Manufacturer's standard thickness for hatch size indicated.
 - 2. Finish: Baked enamel or powder coat.
 - 3. Color: As selected by Architect from manufacturer's full range.

- E. Construction:
1. Insulation: Glass-fiber board.
 - a. R-Value: 12.0 according to ASTM C 1363.
 2. Nailer: Factory-installed wood nailer continuous around hatch perimeter.
 3. Hatch Lid: Opaque, insulated, and double walled, with manufacturer's standard metal liner of same material and finish as outer metal lid.
 4. Hatch Lid: Glazed, insulated, and double walled, with manufacturer's standard metal liner of same material and finish as outer metal lid.
 5. Curb Liner: Manufacturer's standard, of same material and finish as metal curb.
 6. On ribbed or fluted metal roofs, form flange at perimeter bottom to conform to roof profile.
 7. Fabricate curbs to minimum height of 12 inches above roofing surface unless otherwise indicated.
 8. Sloping Roofs: Where slope or roof deck exceeds 1:48, fabricate curb with perimeter curb height that is constant. Equip hatch with water diverter or cricket on side that obstructs water flow.
- F. Hardware: Spring operators, hold-open arm, stainless-steel spring latch with turn handles, stainless-steel butt- or pintle-type hinge system, and padlock hasps inside and outside.
1. Provide two-point latch on lids larger than 84 inches.
 2. Provide remote-control operation.
- G. Safety Railing System: Roof-hatch manufacturer's standard system including rails, clamps, fasteners, safety barrier at railing opening, and accessories required for a complete installation; attached to roof hatch and complying with 29 CFR 1910.23 requirements and authorities having jurisdiction.
1. Height: 42 inches above finished roof deck.
 2. Posts and Rails: Galvanized-steel pipe, 1-1/4 inches in diameter or galvanized-steel tube, 1-5/8 inches in diameter.
 3. Flat Bar: Galvanized steel, 2 inches high by 3/8 inch thick.
 4. Maximum Opening Size: System constructed to prevent passage of a sphere 21 inches in diameter.
 5. Chain Passway Barrier: Galvanized proof coil chain with quick link on fixed end.
 6. Self-Latching Gate: Fabricated of same materials and rail spacing as safety railing system. Provide manufacturer's standard hinges and self-latching mechanism.
 7. Post and Rail Tops and Ends: Weather resistant, closed or plugged with prefabricated end fittings.
 8. Provide weep holes or another means to drain entrapped water in hollow sections of handrail and railing members.
 9. Fabricate joints exposed to weather to be watertight.
 10. Fasteners: Manufacturer's standard, finished to match railing system.
 11. Finish: Manufacturer's standard.
 - a. Color: As selected by Architect from manufacturer's full range.

PART 3 - EXECUTION

3.1 INSTALLATION

- A. General: Verify dimensions of roof openings for roof accessories. Install roof accessories according to manufacturer's written instructions.
1. Install roof accessories level; plumb; true to line and elevation; and without warping, jogs in alignment, buckling, or tool marks.

2. Anchor roof accessories securely in place so they are capable of resisting indicated loads.
3. Use fasteners, separators, sealants, and other miscellaneous items as required to complete installation of roof accessories and fit them to substrates.
4. Install roof accessories to resist exposure to weather without failing, rattling, leaking, or loosening of fasteners and seals.

B. Metal Protection: Protect metals against galvanic action by separating dissimilar metals from contact with each other or with corrosive substrates by painting contact surfaces with bituminous coating or by other permanent separation as recommended by manufacturer.

1. Coat concealed side of uncoated aluminum roof accessories with bituminous coating where in contact with wood, ferrous metal, or cementitious construction.
2. Underlayment: Where installing roof accessories directly on cementitious or wood substrates, install a course of underlayment and cover with manufacturer's recommended slip sheet.

3.2 REPAIR AND CLEANING

- A. Galvanized Surfaces: Clean field welds, bolted connections, and abraded areas and repair galvanizing according to ASTM A 780/A 780M.
- B. Touch up factory-primed surfaces with compatible primer ready for field painting according to Section 09 91 00 "Painting."
- C. Clean exposed surfaces according to manufacturer's written instructions.
- D. Replace roof accessories that have been damaged or that cannot be successfully repaired by finish touchup or similar minor repair procedures.

END OF SECTION 077200

SECTION 07 92 00
SEALANTS AND CAULKING

PART 1 - GENERAL

1.01 SUMMARY

- A. Work included: Throughout the Work, seal and caulk joints where shown on the Drawings and elsewhere as required to provide a positive barrier against passage of moisture, fire/smoke, and passage of air.
- B. Related work: Documents affecting work of this Section include, but are not necessarily limited to, General Conditions, Supplementary Conditions, and Sections in Division 1 of these Specifications.

1.02 RELATED SECTIONS

- A. The completion of the work described in this Section may require work in or coordination with other Sections of these specifications. The Contractor and the sub-contractor shall be responsible for identifying and including all related work in other Sections of these specifications and/or drawings necessary for a complete installation of the work described in this Section. These related Sections include but are not limited to the following:
 - 1. Section 07 62 00 – Sheet Metal Flashing and Trim
 - 2. Section 09 91 00 – Painting not specified herein.

1.03 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen thoroughly trained and experienced in the necessary crafts and completely familiar with the specified requirements and methods needed for proper performance of the work of this Section.

1.04 SUBMITTALS

- A. Product data: Within 15 calendar days after the Contractor has received the Owner's Notice to Proceed, submit:
 - 1. Materials list of items proposed to be provided under this Section;
 - 2. Manufacturer's specifications and other data needed to prove compliance with the specified requirements;
- B. Samples: Accompanying the submittal described above, submit Samples of each sealant, each backing material, each primer, and each bond breaker proposed to be used.

1.05 PRODUCT HANDLING

- A. Comply with pertinent provisions of Section 01 60 00.
- B. Do not retain at the job site material which has exceeded the shelf life recommended by its manufacturer.

PART 2 - PRODUCTS

2.01 SEALANTS

- A. Provide sealant as manufactured by Tremco, Sika, Pecora or approved equal. Products approved by the Architect. Sealant products shall be, but not necessarily limited to, the following types:
 - 1. Non-skinning Butyl: Garland Tuff-Stuff MS, or approved equal.
 - 2. Horizontal surfaces: Garland Tuff-Stuff MS, Green-Lock Sealant, or approved equal.
- B. Colors:
 - 1. Colors for each sealant installation will be selected by the Architect from standard colors normally available from the specified manufacturers.
 - 2. Should such standard color not be available from the approved manufacturer except at additional charge, provide such colors at no additional cost to the Owner.
- C. In concealed installations, and in partially exposed installations, use standard gray or black sealant.

- 2.02 PRIMERS
- A. Use only those primers which are non-staining, have been tested for durability on the surfaces to be sealed, and are specifically recommended for this installation by the manufacturer of the sealant used.
- 2.03 BACKUP MATERIALS
- A. Use only those backup materials which are specifically recommended for this installation by the manufacturer of the sealant used, which are nonabsorbent, and which are non-staining.
- B. Acceptable types include:
1. Closed-cell resilient urethane or polyvinylchloride foam;
 2. Closed-cell polyethylene foam;
 3. Closed-cell sponge of vinyl or rubber;
 4. Polychloroprene tubes or beads;
 5. Polyisobutylene extrusions;
 6. Oil-less dry jute.
- 2.04 BOND-PREVENTATIVE MATERIALS
- A. Use only one of the following as best suited for the application, and as recommended by the manufacturer of the sealant used:
1. Polyethylene tape, pressure-sensitive adhesive, with the adhesive required only to hold tape to the construction materials as indicated;
 2. Aluminum foil complying with MIL-A-148E;
 3. Wax paper complying with Fed Spec UU-P-270.
- 2.05 MASKING TAPE
- A. For masking around joints, provide masking tape complying with Fed Spec UU-T-106c.
- 2.06 OTHER MATERIALS
- A. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the review of the Architect.

PART 3 - EXECUTION

- 3.01 SURFACE CONDITIONS
- A. Examine the areas and conditions under which work of this Section will be performed. Correct conditions detrimental to timely and proper completion of the Work. Do not proceed until unsatisfactory conditions are corrected.
- 3.02 PREPARATION
- A. Steel surfaces:
1. Steel surfaces in contact with sealant:
 - a. Sandblast as required to achieve acceptable surface for bond.
 - b. If sandblasting is not practical, or would damage adjacent finish, scrape the metal or wire brush to remove mill scale.
 - c. Use solvent to remove oil and grease, wiping the surfaces with clean rags.
 2. Remove protective coatings on steel by sandblasting or by using a solvent, which leaves no residue.
- B. Aluminum surfaces:
1. Aluminum surfaces in contact with sealant:
 - a. Remove temporary protective coatings, dirt, oil, and grease.
 - b. When masking tape is used for protective cover, remove the tape just prior to applying the sealant.
 2. Use only such solvents to remove protective coatings as are recommended for that purpose by the manufacturer of the aluminum work, and which are non-staining.
- 3.03 INSTALLATION OF BACKUP MATERIAL
- A. Use only the backup material recommended by the manufacturer of the sealant used for the particular installation, compressing the backup material 25% to 50% to achieve a positive and secure fit.
- B. When using backup of tube or rod stock, avoid lengthwise stretching of the material. Do not twist or braid hose or rod backup stock.

- 3.04 PRIMING
- A. Use only the primer recommended by the manufacturer of the sealant for the particular installation, applying in strict accordance with the manufacturer's recommendations.
- 3.05 BOND-BREAKER INSTALLATION
- A. Provide a bond-breaker where recommended by the manufacturer of the sealant, adhering strictly to the installation recommendations.
- 3.06 INSTALLATION OF SEALANTS
- A. Prior to start of installation in each joint, verify the joint type according to details on the Drawings, and verify that the required proportion of width of joint to depth of joint has been secured.
- B. Equipment:
1. Apply sealant under pressure with power-actuated or hand gun, or by other appropriate means.
 2. Use guns with nozzle of proper size, and providing sufficient pressure to completely fill the joints as designed.
- C. Thoroughly and completely mask joints where the appearance of sealant on adjacent surfaces would be objectionable.
- D. Install the sealant in strict accordance with the manufacturer's recommendations, thoroughly filling joints to the recommended depth.
- E. Tool joints to the profile shown on the Drawings, or as otherwise required if such profiles are not shown on the Drawings.
- F. Cleaning up:
1. Except at aluminum surfaces (see 3.2-C above), remove masking tape immediately after joints have been tooled.
 2. Clean adjacent surfaces free from sealant as the installation progresses, using solvent or cleaning agent recommended by the manufacturer of the sealant used.

END OF SECTION

DIVISION 9

FINISHES

SECTION 099113
EXTERIOR PAINTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Section includes surface preparation and the application of paint systems on exterior substrates.

1.2 DEFINITIONS

- A. MPI Gloss Level 1: Not more than five units at 60 degrees and 10 units at 85 degrees, according to ASTM D 523.
- B. MPI Gloss Level 3: 10 to 25 units at 60 degrees and 10 to 35 units at 85 degrees, according to ASTM D 523.
- C. MPI Gloss Level 4: 20 to 35 units at 60 degrees and not less than 35 units at 85 degrees, according to ASTM D 523.
- D. MPI Gloss Level 5: 35 to 70 units at 60 degrees, according to ASTM D 523.
- E. MPI Gloss Level 6: 70 to 85 units at 60 degrees, according to ASTM D 523.
- F. MPI Gloss Level 7: More than 85 units at 60 degrees, according to ASTM D 523.

1.3 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.
- B. Samples: For each type of paint system and each color and gloss of topcoat.
- C. Extra material: Furnish the University with an additional 5% (percent) of each finish coat. Full containers only. Label each can as to location of paint on the project.

1.4 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 100 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.

PART 2 - PRODUCTS

2.1 MANUFACTURERS

- A. Manufacturers: Subject to compliance with requirements, provide products by one of the following:
 1. Dunn-Edwards Corporation.
 2. Frazee Paint; Comex Group.
 3. Sherwin-Williams Company (The).
 4. Approved Equal.
- B. Products: Subject to compliance with requirements, provide one of the products listed in the Exterior Painting Schedule for the paint category indicated.

2.2 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 and indicated in a color schedule.

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. Verify suitability of substrates, including surface conditions and compatibility with existing finishes and primers.
- C. 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.

3.3 APPLICATION

- A. Apply paints according to manufacturer's written instructions and recommendations in "MPI Manual."
- B. 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. 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.
- B. At completion of construction activities of other trades, touch up and restore damaged or defaced painted surfaces.

3.5 EXTERIOR PAINTING SCHEDULE

- A. Steel and Iron Substrates:
 - 1. Water-Based Light Industrial Coating System MPI EXT 5.1C:
 - a. Prime Coat: Primer, alkyd, anti-corrosive for metal.
 - 1) Dunn-Edwards Corporation.
 - b. Prime Coat: Primer, rust inhibitive, water based.
 - 1) Dunn-Edwards Corporation.
 - c. Prime Coat: Primer, epoxy, anti-corrosive.
 - 1) Dunn-Edwards Corporation.
 - d. Prime Coat: Shop primer specified in Section where substrate is specified.
 - e. Intermediate Coat: Light industrial coating, exterior, water based, matching topcoat.
 - f. Topcoat: Light industrial coating, exterior, water based (MPI Gloss Level 3).
 - 1) Dunn-Edwards Corporation.

- g. Topcoat: Light industrial coating, exterior, water based, semi-gloss (MPI Gloss Level 5).
 - 1) Dunn-Edwards Corporation.
- h. Topcoat: Light industrial coating, exterior, water based, gloss (MPI Gloss Level 6).
 - 1) Dunn-Edwards Corporation.

B. Galvanized-Metal Substrates:

1. Latex System:

- a. Prime Coat: Primer, galvanized, water based.
 - 1) Dunn-Edwards Corporation.
- b. Intermediate Coat: Latex, exterior, matching topcoat.
- c. Topcoat: Latex, exterior, flat (MPI Gloss Level 1).
 - 1) Dunn-Edwards Corporation.
- d. Topcoat: Latex, exterior, low sheen (MPI Gloss Level 3-4).
 - 1) Dunn-Edwards Corporation.
- e. Topcoat: Latex, exterior, semi-gloss (MPI Gloss Level 5).
 - 1) Dunn-Edwards Corporation.
- f. Topcoat: Latex, exterior, gloss (MPI Gloss Level 6).
 - 1) Dunn-Edwards Corporation.

END OF SECTION

PART 5 – PLANS (UNDER SEPARATE COVER)