



**General Services Agency
Capital Projects
COUNTY OF TULARE
AGENDA ITEM**

BOARD OF SUPERVISORS

KUYLER CROCKER
District One

PETE VANDER POEL
District Two

AMY SHUKLIAN
District Three

EDDIE VALERO
District Four

DENNIS TOWNSEND
District Five

AGENDA DATE: June 4, 2019 - **REVISED**

Public Hearing Required	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Scheduled Public Hearing w/Clerk	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Published Notice Required	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Advertised Published Notice	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Meet & Confer Required	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Electronic file(s) has been sent	Yes	<input checked="" type="checkbox"/>	N/A	<input type="checkbox"/>
Budget Transfer (Aud 308) attached	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Personnel Resolution attached	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>
Agreements are attached and signature line for Chairman is marked with tab(s)/flag(s)	Yes	<input type="checkbox"/>	N/A	<input checked="" type="checkbox"/>

CONTACT PERSON: Maria Benavides PHONE: 205-1124

SUBJECT: Three Rivers Museum Restroom Project

REQUEST(S):

That the Board of Supervisors:

1. Approve the bid documents for the Three Rivers Museum Restroom Project.
2. Authorize the advertisement of bids for the project.
3. Set the bid opening for the project at 2:00 p.m. on Thursday, July 11, 2019.

SUMMARY:

The Three Rivers Museum is in need of restroom facilities to accommodate Museum patrons and travelers on their way to Sequoia National Park. Therefore, Capital Projects and the Three Rivers Museum Board have worked with an architect to design a new restroom.

The project consists of site improvements and new construction including, but not limited to, grading, site improvement, concrete, structural steel, flashing and sheet metal, metal doors and frames, fiberglass reinforced paneling, sealants, finishes, equipment, metal building systems, plumbing, and electrical systems.

This project is located adjacent to the existing Museum. The new structure consists of a men's, women's, and unisex bathroom, fixtures, and a path to the parking lot. The parking lot will be constructed in the future as a separate project. The interior of the building is approximately 290 square feet. The contract documents allow for 90 calendar days of construction. It is anticipated that construction will be completed by November 2019.

It is requested that the Board approve the bid documents for the Three Rivers

SUBJECT: Three Rivers Museum Restroom Project
DATE: June 4, 2019

Museum Restroom Project, authorize the advertisement for bids for the subject project, and set bid opening for the project at 2:00 p.m. on July 11, 2019.


FISCAL IMPACT/FINANCING:

The project is funded in the Capital Projects Fund 030-086-3260-8146.

LINKAGE TO THE COUNTY OF TULARE STRATEGIC BUSINESS PLAN:

The County's Strategic Business Plan includes the Quality of Life initiative to promote public health and welfare, educational opportunities, natural resource management and continued improvement of environmental quality. The Three Rivers Museum Restroom Project aligns with the initiative by providing facilities that will improve the quality of life.

ADMINISTRATIVE SIGN-OFF:


Victor Calderon
Capital Projects Coordinator I

cc: County Administrative Office

Attachment(s)
A- Plan and Specifications

**BEFORE THE BOARD OF SUPERVISORS
COUNTY OF TULARE, STATE OF CALIFORNIA**

IN THE MATTER OF THE THREE RIVERS)
MUSEUM RESTROOM PROJECT) Resolution No. _____
)
)

UPON MOTION OF SUPERVISOR _____, SECONDED BY
SUPERVISOR _____, THE FOLLOWING WAS ADOPTED BY THE
BOARD OF SUPERVISORS, AT AN OFFICIAL MEETING HELD _____
_____, BY THE FOLLOWING VOTE:

AYES:
NOES:
ABSTAIN:
ABSENT:

ATTEST: JASON T. BRITT
COUNTY ADMINISTRATIVE OFFICER/
CLERK, BOARD OF SUPERVISORS

BY: _____
Deputy Clerk

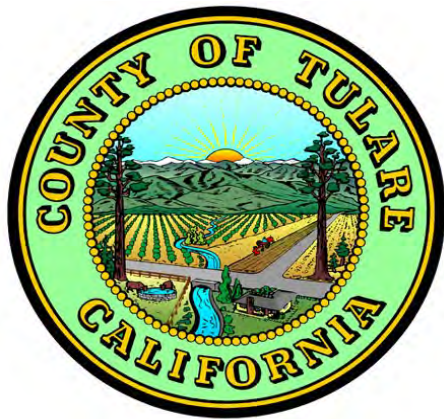
* * * * *

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3. Set the bid opening for the project at 2:00 p.m. on Thursday, July 11, 2019.

County of Tulare

Three Rivers Museum Restroom Project

Three Rivers, California



**Bid Documents
And
Specifications**

County of Tulare

Capital Projects

2637 W Burrell Ave., Suite 200

Visalia, California 93291

Phone: 559-205-1100

05/13/19

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SECTION 00020 – ADVERTISEMENT FOR BIDS

**ADVERTISEMENT FOR BIDS
Tulare County
Three Rivers Museum Restroom,
42268 Sierra Drive, Three Rivers, CA 93271**

NOTICE IS HEREBY GIVEN that individually sealed bids for the **Three Rivers Museum Restroom (“Project”), 42268 Sierra Drive, Three Rivers, CA 93271** will be accepted by the Clerk of the Board of Supervisors, County of Tulare, Administration Building, 2800 W. Burrel Avenue, Visalia, California until **2:00 p.m. on Monday, July 11, 2019.**

Project Description: The Project consists of furnishing of all labor, materials, and equipment necessary for construction of new restrooms and path of travel. The project includes, but is not limited to, grading, site improvements, concrete, structural steel, flashing and sheet metal , metal doors and frames, fiberglass reinforced paneling, sealants, finishes, equipment, metal building systems, plumbing, and electrical systems. Total area of approximately 300 square feet.

A pre-bid conference will be held at the Project site located west of the Three Rivers Historical Museum which is located at, **42268 Sierra Drive, Three Rivers, CA** at 9:00 a.m. on June 20, 2019. Enter the site to the west of the museum North of Sierra Drive (HWY 198). The pre-bid conferences is not mandatory, but Bidders that attend shall sign the pre-bid conference attendance roster.

Bids shall be in accordance with the drawings and specifications which are on file with, and may be obtained from the Capital Projects Division of the Tulare County General Services Agency, 2637 W. Burrel Ave., Suite 200, Visalia, California 93291, (559) 205-1100, Monday thru Thursday between 7:30 AM and 5:30 PM and Friday between 8:00 AM and 12:00 PM. A non-refundable fee of **\$25.00** will be charged for each set of printed Plans and Specifications, and **\$5.00** for each set of digital Plans and Specifications. Each bid shall be submitted individually on Bid Forms provided by Capital Projects along with accompanying documents and a Cashier's Check or Bid Bond for not less than ten percent (10%) of the total amount of the bid, sealed in an envelope marked with the bidder's name and business address, Project title and the scheduled time and date of the bid opening.

The bids will be opened, examined and declared by a Deputy Clerk of the Board of Supervisors at the time and on the date above written. The bid opening will be open to the public and held in the Conference Room of the Board of Supervisors in the Tulare County Administration Building, County Civic Center, 2800 W. Burrel Avenue, Visalia, California. The results of the Bidding shall be reported to the Board of Supervisors at their next regular meeting thereafter.

The contract will be awarded to the responsible bidder submitting the lowest cost responsive bid.

TIME OF COMPLETION: The Project is to be completed within **90** calendar days from the date to be established in the "NOTICE TO PROCEED". The Agreement includes provisions for Liquidated Damages if the Project is not timely completed.

The successful Bidder shall possess a Class **“B”** California Contractor's License at the time the bid is submitted and maintain that license until the Project is completed.

The successful Bidder shall furnish the bonds, insurance policies and certificates, specified in the Instructions to Bidders and General Conditions.

The successful Bidder will be entitled to establish an Escrow in lieu of withheld payments pursuant to California Public Contract Code Section 22300, and the General Conditions.

Any Contractor to whom a contract is awarded and any subcontractor under the Contractor shall pay all workers employed on the work not less than the prevailing wage rates determined by the Director of the California Department of Industrial Relations ("DIR") and shall comply with all laws and regulations relating to the employment of apprentices. Contractor is required to post prevailing wages at job site(s) - per Labor Code 1773.2. Said wage rates pursuant to Section 1773.2 of the Labor Code are on file with the Clerk of the Board of Supervisors, Administration Building, 2800 W. Burrel Avenue, Visalia, California and will be made available to any interested person on request.

All contractors and subcontractors performing public works, before bidding or accepting any public works contract, must register within the statutory timelines and meet requirements using the DIR's online application at: <https://efiling.dir.ca.gov/PWCR/ActionServlet?action=displayPWCRegistrationForm>

No contractor or subcontractor may be listed on this or any other bid proposal for a public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code section 1771.1(a)].

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.

This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Contractor shall comply with Title VI of the Civil Rights Act of 1964, and in accordance with said Act, no person on the grounds of race, color, sex or national origin, shall be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under any service or activity in connection with the Project.

Contractor shall comply with Title VII of the Civil Rights Act of 1964, which prohibits discrimination against any employee or applicant for employment because of race, color, religion, sex or national origin.

After the time set for opening of bids, no bid may be withdrawn for a period of sixty (60) days.

The Board of Supervisors reserves the right to deem a bid non-responsive for any information crossed out from the bid packet including information completed by the manufacturer.

The Board of Supervisors reserves the right to reject any or all bids, and/or waive any informality in any bid, and/or determine in its discretion the responsibility of any bidder.

The Board of Supervisors further reserves all rights to use County Forces, or to negotiate contracts, or both, to the extent authorized by the public contract code.

Date _____

By Order of the Board of
Supervisors of the County
of Tulare, State of California

Jason T. Britt
County Administrative Officer/Clerk
Board of Supervisors
County of Tulare

By _____

CAO

END OF SECTION 00020

SECTION 00100 - INSTRUCTIONS TO BIDDERS

To be considered, Bids must comply with these Instructions to Bidders.

DOCUMENTS:

Bidders may obtain copies of the Plans and Specifications and related documents from the Capital Projects Division of the Tulare County General Services Agency, 2637 W. Burrel Ave., Suite 200, Visalia, California 93291, (559) 636-5300, Monday thru Thursday between 7:30 AM and 5:30 PM and Friday between 8:00 AM and 12:00 PM. A non-refundable fee of **\$25.00** will be charged for each set of Plans and Specifications, and **\$5.00** for each set of digital Plans and Specifications (CD). A maximum of two sets will be available to each contractor until after the pre-bid conference, after that time a contractor may obtain additional sets.

EXAMINATION:

Before submitting a bid, bidders shall carefully examine the Plans and Specifications, and related documents, visit the site of the work and fully inform themselves as to all existing conditions and limitations, and shall include in the bid a sum to cover the cost of all items included in the work.

A pre-bid conference will be held at the Project site located south of the County Road Yard which is located at, **42268 Sierra Drive, Three Rivers, CA at 9:00 AM on June 20, 2019**. The pre-bid conferences is not mandatory, however, this will be the only available time for all potential bidders to view the Project site with the County and Architect. Bidders that attend shall sign the pre-bid conference attendance roster.

INTERPRETATIONS, ADDENDA:

- A. Should a bidder find discrepancies, inconsistencies or omissions from the Drawings, Specifications and Related Documents, or should a bidder be in doubt as to their meaning, they shall at once notify the County by email: VCalderon@co.tulare.ca.us. Any such item not brought to the County's attention by **12:00 p.m., June 27, 2019** shall be done in accordance with the County's interpretation for the good of the work in accordance with the intent and meaning of the Contract Documents. Neither County nor County's Representative will be responsible for oral instructions or information. Questions received by **12:00 p.m., June 27, 2019** will be answered by a written Addendum directed to all bidders.
- B. Any Addenda issued by the County or County's Representative during the time of bidding are to be considered in the Bid, and will become a part of the Agreement between Contractor and County. Bidders shall acknowledge receipt of all Addenda on the Bid Form in the space provided.

SUBSTITUTION OF MATERIALS:

Materials, other than those specified, must be approved by Addenda issued by the County or County's Representative prior to bid opening, **otherwise** if the bidder submits non-approved materials with the bid, the bidder assumes the risk the bid may be deemed nonresponsive because the County may not approve the desired substitution. See Article 15.1 of GENERAL CONDITIONS for detailed requirements regarding post-Bid substitution requests.

BIDS:

- A. Bids must be made on the "Bid Form" included in these Specifications, or a copy thereof, all blank spaces filled, the signature shall be in longhand, and the completed form shall be without alterations or erasures. All amounts must be in words as well as in figures. Any discrepancy between the words and figures shall be resolved using the amount stated in words. The "Bid Form" must be filled out in ink or be typewritten. Where the bidder is a corporation, the "Bid Form" must be signed using the name of the corporation followed by the name of state of incorporation and the signatures of an officer authorized to bind the corporation to a Contract. A bid which is incomplete, incorrect or non-conforming, may be disregarded, in the sole discretion of the Board of Supervisors.
- B. Bids shall be addressed and delivered to:
- Clerk of the Board of Supervisors
County of Tulare
Administration Building
2800 W. Burrel Avenue
Visalia, CA 93291
- C. Each bid shall be delivered in separate opaque sealed envelope bearing on the outside, the name of the bidder, the bidder's business address, the name of the Project, and the scheduled date and time for the bid opening. Bids will be accepted until the date and time stated in the Advertisement for Bids. Also, to be included in each envelope shall be:
1. A certified Bid Bond or cashier's check for 10% of the bid amount referring to the Bid Package bid upon.
 2. No bid will be valid without the complete listing of subcontractors performing more than one-half (½) of one (1%) of total contract **with the signature of the contractor submitting the bid in the space indicated.**
 3. A completed, Non-Collusion Declaration referring to the Bid Package bid upon.

4. County reserves the right to deem the bid non-responsive for any information crossed out from the bid packet including information completed by the manufacturer.
- D. All bids shall remain firm for a period of sixty (60) calendar days after the date of bid opening.
- E. Bids may not be modified after the designated time for bid opening. Upon presentation of satisfactory identification, bidders may withdraw and resubmit bids at any time prior to bid opening. No bid may be withdrawn until 60 days after the bid opening.
- F. The responsibility of bidders and of their proposed Subcontractors will be considered in making the award.
- G. County will determine, at its own discretion, whether a bidder is responsible.
- H. The award of the contract, if awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements presented.
- I. County reserves the sole discretion to reject any or all bids or to waive informalities and irregularities in the Bid Form or the Bid process.
- J. Bids expressing exceptions or qualifications on Technical Specifications may be disregarded in the sole discretion of the Board of Supervisors.
- K. In accordance with the General Conditions, include in the Bid all costs for full performance of the work.
- L. The following failures are not waivable and will cause a bid to be considered nonresponsive:
- Failure to sign the bid;
 - Failure to furnish the required bid bond on the County form provided, or a cashier's check equal to 10% of the Base Bid
 - Failure to include a total amount of the bid
- M. The decision of the County regarding the amount of a bid, or existence or treatment of a discrepancy in a bid will be final.

BID PROTESTS:

Any bid protest must be in writing and filed with the Victor Calderon, County Capital Projects Coordinator I, at VCalderon@co.tulare.ca.us or General Services Agency/Capital Projects Division 2637 W. Burrell Ave., Suite 200, Visalia, California 93291 before 5:00 p.m. no later than two working days following bid opening (the "Bid Protest Deadline") and must comply with the following requirements:

- A. General. Only a bidder who has actually submitted a Bid Proposal is eligible to submit a bid protest against another bidder. Subcontractors and material suppliers are not eligible to submit bid protests. A bidder may not rely on the bid protest submitted by another bidder, but must timely pursue its own protest. For purposes of this Bid Protest Procedure, a “working day” means a day that County is open for normal business, and excludes weekends and holidays observed by County.
- B. Protest Contents. The bid protest must contain a complete statement of the basis for the protest and all supporting documentation. Material submitted after the Bid Protest Deadline will not be considered. The protest must refer to the specific portion or portions of the Contract Documents upon which the protest is based. The protest must include the name, address, email address, and telephone number of the person representing the protesting bidder if different from the protesting bidder.
- C. Copy to Protested Bidder. A copy of the protest and all supporting documents must be concurrently transmitted by fax or by email, by or before the Bid Protest Deadline, to the protested bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- D. Response to Protest. The protested bidder may submit a written response to the protest, provided the response is received by County before 5:00 p.m., within two working days after the Bid Protest Deadline or after actual receipt of the bid protest, whichever is sooner (the “Response Deadline”). The response must include all supporting documentation. Material submitted after the Response Deadline will not be considered. The response must include the name, address, email address, and telephone number of the person representing the protested bidder if different from the protested bidder.
- E. Copy to Protesting Bidder. A copy of the response and all supporting documents must be concurrently transmitted by fax or by email, by or before the Bid Protest Deadline, to the protesting bidder and any other bidder who has a reasonable prospect of receiving an award depending upon the outcome of the protest.
- F. F. Consideration of Protests. The Director – Public Works or his or her designee will inform the protesting and protested bidders in writing of the time and place that the Board of Supervisors will consider the protest(s).
- G. Exclusive Remedy. The procedure and time limits set forth in this section are mandatory and are the bidder’s sole and exclusive remedy in the event of bid protest. A bidder’s failure to comply with these procedures will constitute a waiver of any right to further pursue a bid protest, including filing a Government Code Claim or initiation of legal proceedings.
- H. Right to Award. The County Board of Supervisors reserves the right to award the Contract to the bidder it has determined to be the responsible bidder submitting the lowest cost responsive bid, and to issue a notice to proceed with the Work notwithstanding any pending or continuing challenge to its determination.

BID SECURITY:

Each bidder shall submit, with its bid, a cashier's check upon a solvent bank or a Bid Bond in an amount equal to 10% of the Base Bid made payable to County. This bid security shall be given as a guarantee that the bidder will enter into the Agreement if awarded to the bidder and will produce the required bonds, certificates and insurance coverage, and **shall be retained as liquidated damages if the bidder refuses to enter into said Agreement** upon request to do so by County. Bid security will be returned to all unsuccessful bidders, and to each successful bidder upon the County's receipt of a satisfactory Performance Bond, Payment Bond, Policy of Insurance, Worker's Compensation Insurance Certificate, executed Agreement and any other document required by the Contract Documents prior to the execution of the Agreement by the County. Bid Bonds shall be executed on the form included in these specifications or a facsimile thereof.

NON-COLLUSION DECLARATION:

Each bidder shall submit to County, with its bid, a Non-Collusion Declaration covering the bidder and all sub-contractors. The Non-Collusion Declaration shall be executed on the form included in these Specifications or a facsimile thereof.

FORM OF AGREEMENT:

The Contractor is required to sign and submit to the County 3 originals of the Agreement with the County, in the form shown in these Specifications.

PERFORMANCE BOND AND PAYMENT BOND:

The successful bidder shall file with County a Performance Bond and a Payment Bond. **The Payment and Performance Bonds required by these specifications will neither be accepted nor approved by the County unless the bonds are underwritten by a California admitted surety, and the requirements of California Code of Civil Procedure Section 995.630 are met.** Bonds shall be executed in 3 (three) original counterparts on the forms included in these Specifications or facsimile thereof.

CONTRACTOR'S LICENSE:

At the time the bid is submitted, the bidder shall possess a valid and current Contractor's License, classification **"B"** issued by the State of California in order to perform the work described in the Contract Documents. Required licensing shall be maintained until the completion of the Project.

CONTRACTOR'S INSURANCE:

Coverage: Contractor shall maintain, for the duration of the work and warranty period required under the Agreement, all Insurance in the minimum amounts required by the "GENERAL CONDITIONS."

Prior to approval of the Agreement by the COUNTY, Contractor shall file with the Clerk of the Board of Supervisors, evidence of the insurance in accordance with Article 11 of the General Conditions, which outlines the minimum scope, specifications and limits of insurance required for the Project. Additional insured endorsements required as outlined in Article 11 shall not be used to reduce limits available to County as an additional insured from the Contractor's full policy limits. Insurance policies shall not be used to limit liability or to limit the indemnification provisions and requirements of the Agreement or act in any way to reduce the policy coverage and limits available from the insurer (s). Failure to maintain or renew coverage, or to provide evidence of renewal, may be considered a material breach of the Agreement.

Department of Industrial Relations Requirements:

Contractor and any subcontractor under it shall pay all workers employed on the work not less than the prevailing wage rates determined by the Director of the Department of Industrial Relations and shall comply with all laws and regulations relating to the employment of apprentices. Said wage rates pursuant to Section 1773.2 of the Labor Code General Services, 2637 W. Burrell Avenue, Ste. 200, Visalia, California and will be made available to any interested person on request.

No contractor or subcontractor may work on this public works project unless registered with the Department of Industrial Relations pursuant to Labor Code section 1725.5. This Project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

Contractor shall comply with Title VI of the Civil Rights Act of 1964, and in accordance with said Act, no person on the grounds of race, color, sex or national origin, shall be excluded from participation in, be denied the benefits of, or be otherwise subject to discrimination under any service or activity in connection with the Project.

Contractor shall comply with Title VII of the Civil Rights Act of 1964, which prohibits discrimination against any employee or applicant for employment because of race, color, religion, sex or national origin.

END OF SECTION 00100

SECTION 00310 - BID FORM

County: Board of Supervisors
County of Tulare
Administration Building
2800 W. Burrel Avenue
Visalia, CA 93291

County's
Representative: Capital Projects
Victor Calderon, Capital Projects Coordinator I
County of Tulare
2637 W. Burrel Ave., Suite 200
Visalia, Ca. 93277
559-205-1100 - Phone

Architect:

Dennis Whistler
SKW Architects
303 N. Church Street
Visalia, CA 93291
559-734-1725- Phone
archddw@pacbell.net

Bid For: Tulare County – Three Rivers Museum Restroom, 42268
Sierra Drive, Three Rivers, CA 93271

1. We, the undersigned, having familiarized ourselves with the local conditions, the Advertisement for Bids, Instructions to Bidders, General Conditions, Bid Form, Supplement to Bid Form, Agreement between County and Contractor, the Drawings and Specifications and Addenda issued by the County or County's Representative, do hereby propose to furnish all labor, materials, necessary tools, expendables, equipment, utility and transportation services necessary to complete the Work required for the above project in strict accordance with the contract documents, including all Addenda.
2. Undersigned declares that the cost of a Performance Bond in the full amount of the Agreement, and a Labor and Material Payment Bond of 100% of the amount of the Agreement is included in this bid.
3. Undersigned agrees to enter into and execute an Agreement, if awarded on the basis of this Bid, **and to furnish Bonds and Insurance in accordance with Contract Documents within seven calendar (7) days after date of receipt of Notice of Intent to Award.**
4. **Liquidated Damages for Failure to Enter into the Agreement:**
Enclosed herewith is Cashiers Check or Bid Bond, made payable to the County, which is not less than 10% of the total amount of the Bid. Should Contractor's bid be accepted and Contractor thereafter fail to enter into the Agreement on the

Type of Organization _____
(Individual, Partnership, Corporation, Etc.)

Company's Name _____
(Type or Print)

Partner's Names _____
(If Partnership) _____

Seal (If Corporation)

Date: _____

By: _____
(Signature of Contractor)

(Type Name of Contractor)

Address: _____

Telephone: _____

Contractor License:

Class: _____

Numbers: _____

Expiration Dates: _____

Department of Industrial Relations Registration:

DIR Registration No. _____

Attachments:

- _____ Bid Security
- _____ Sub-contractor List
- _____ Non-Collusion Declaration
- _____ Corporate Resolution authorizing Signature of Document, if Corporation

END OF SECTION 00310

SECTION 00311 - SUBCONTRACTOR LIST FORM

This attachment to the Bid shall be submitted with the Bid. If no subcontractors are to be involved and work is to be performed solely by the Contractor, so state.

Pursuant to the provision of Section 4100 to 4113, inclusive, of the Public Contract Code of the State of California, the Contractor shall set forth the type of work to be performed, name, location of the place of business, contractor's state license number ("CSLB #"), and Department of Industrial Relations Registration Number ("DIR #") of each subcontractor who will perform work or labor in or about the construction of the work of improvement (the "Work") in an amount in excess of one-half (1/2) of one percent (1%) of the Contractor's total bid.

Failure to submit a properly completed Subcontractor List form results in a nonresponsive bid. Note: (1) pursuant to Public Contract Code Section 4104(a)(2), an inadvertent error in listing the California contractor license number provided pursuant to this paragraph shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive if the corrected contractor's license number is submitted to the County by the prime contractor within 24 hours after the bid opening and provided the corrected contractor's license number corresponds to the submitted name and location for that subcontractor; (2) pursuant to Labor Code Section 1771.1(c), an inadvertent error in listing a subcontractor who is not registered with the DIR in a bid proposal shall not be grounds for filing a bid protest or grounds for considering the bid nonresponsive, provided that any of the following apply:

- (1) The subcontractor is registered prior to the bid opening.
- (2) Within 24 hours after the bid opening, the subcontractor is registered and has paid the penalty registration fee specified in subparagraph (E) of paragraph (2) of subdivision (a) of Labor Code Section 1725.5.

The Contractor to whom the contract is awarded will not be permitted, without the written consent of the Tulare County General Services Agency Director or designee, to substitute any person as subcontractor in place of the subcontractor designated in the original bid, or to permit any subcontract to be assigned or transferred, or to allow it to be performed by anyone other than the original subcontractor. Consent to the substitution of another person as subcontractor shall only be permitted in accordance with Public Contract Code Section 4107.

If the Contractor fails to specify a subcontractor for any portion of the Work in excess of one-half (1/2) of one percent (1%) of the Contractor's total bid, then the Contractor agrees that the Contractor will perform that portion of the Work itself. The subletting or subcontracting of work for which no subcontractor was designated in the original bid and which is in excess of one-half of one percent of the total contract price, will be allowed only in accordance with Public Contract Code Section 4109.

SECTION 00312 – NON COLLUSION DECLARATION

NONCOLLUSION DECLARATION TO BE EXECUTED BY BIDDER AND SUBMITTED WITH BID

(Public Contract Code section 7106)

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 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 his or her 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].

(signature)

(Print name and Title)

END OF SECTION 00312

SECTION 00501 - BID BOND

**COUNTY OF TULARE
STATE OF CALIFORNIA**

BIDDER'S BOND

KNOW ALL MEN BY THESE PRESENTS:

That we, _____
_____ as PRINCIPAL, and

_____ as SURETY, are held and firmly bound unto the County of Tulare, hereinafter called the Obligee, in the sum of TEN PERCENT (10%) OF THE TOTAL AMOUNT OF THE BID of the Principal above named, submitted by said Principal to the Board of Supervisors, County of Tulare, for the work described below, for the payment of which sum in lawful money of the United States, well and truly to be made, we bind ourselves, our heirs, executors, administrators and successors, jointly and severally, firmly by these presents. In no case shall the liability of the surety hereunder exceed the sum of \$_____.

THE CONDITION OF THIS OBLIGATION IS SUCH that, whereas, the Principal has submitted the above-mentioned bid to the Board of Supervisors, County of Tulare, for certain construction specifically described as follows, for which bids are to be opened at Visalia, California, on Thursday, **July 11, 2019**, for construction on the Tulare County - **Three Rivers Museum Restroom at 42268, Three Rivers, CA 93271**.

NOW, THEREFORE, if the aforesaid Principal is awarded the Contract, given the required notice of award and presented with the County-Contractor Agreement for signature, and, within the time and manner required under the Specifications, executes and files it with the Clerk of the Board of Supervisors in the prescribed form and in accordance with the bid, together with all insurance certificates, bonds, powers of attorney, certificates of authority and financial statements, proofs of licensing, and any other documents required by the Specifications to be filed with the executed Agreement, then this obligation shall be null and void; otherwise, it shall be and remain in full force and effect.

In the event suit is brought upon this bond by the Obligee and judgement is recovered, the surety shall pay all costs incurred by the Obligee in such suit, including a reasonable attorney's fee to be fixed by the Court.

IN WITNESS WHEREOF, we have hereunto set our hands and seals on this _____ day of _____, 2019.

Principal

Surety

Note: Signature of those executing for the surety must be properly acknowledged or notarized.

END OF SECTION 00501

SECTION 00502 – STATUTORY PERFORMANCE BOND

STATUTORY PERFORMANCE BOND PURSUANT TO
California Public Contract Code
Section 20129

KNOW ALL MEN BY THESE PRESENTS:

That, _____ (Hereinafter called the Principal), as Principal and _____, a corporation organized and existing under the laws of the State of _____, with its principal office in the City of _____, (hereinafter called the Surety), as Surety, are held and firmly bound unto the **COUNTY OF TULARE**, (hereinafter called the Obligee) in the amount of _____ Dollars (\$_____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Agreement with the Obligee, dated the _____ day of _____, to _____, which Agreement is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THE OBLIGATION IS SUCH, that if said Principal shall faithfully perform and fulfill all the undertakings, covenants, terms, and conditions of said Agreement during the original term of the Agreement and any extension thereof, with or without notice to the Surety, and during the life of any guarantee required under the Agreement, and shall also perform and fulfill all the undertakings, covenants, terms, conditions and agreements of any and all duly authorized extensions or modifications of said Agreement that may hereafter be made, notice of said extensions or modifications to the Surety being hereby waived, and will indemnify, defend, and save harmless the Obligee, its governing board, officers, agents, and employees as required by the Agreement; then the above obligation shall be void. Otherwise, said obligation shall remain in full force and effect.

Whenever Obligee declares Principal to be in default under the Agreement, then the Surety will remedy the default pursuant to the Agreement, or will promptly do one of the following, at the Obligee’s option:

- (1) Undertake through its agents or independent contractors, reasonably acceptable to the Obligee, to complete the Project in accordance with all terms and conditions in the Agreement, including without limitation, all obligations with respect to payments, warranties, guarantees, and liquidated damages, and with no requirement for a “take-over” or similar agreement”; or
- (2) Permit the Obligee to complete the Project in any manner consistent with California law and reimburse the Obligee for all costs it incurs in completing the Project, and in correcting, repairing or replacing any defects in materials, equipment or workmanship, which do not conform to the Agreement.

Surety expressly agrees that the Obligee may reject any contractor or subcontractor that Surety may propose in fulfillment of its obligations in the event of default by the Principal. Surety will not utilize Principal in completing the Project or accept a bid from the Principal for completion of the Work if the Obligee, when declaring the Principal in default, notifies Surety of the Obligee’s objection to Principal’s further participation in the completion of the Project.

Surety’s obligations hereunder are independent of the obligations of any other surety for the performance of the construction work on this Project, and suit may be brought against Surety and such other sureties, jointly and severally, or against any one or more of them, or against less than all of them without impairing the Obligee’s rights against the others.

No right of action will accrue on this bond to or for the use of any person or corporation other than the Obligee or its successors or assigns. If Obligee sues upon this bond, then Surety will pay reasonable attorney's fees and costs incurred by the Obligee in such suit, irrespective of the penal amount of this bond.

Witness our hands this _____ day of _____.

Principal Seal

By

Surety Seal

By

Agency of Record

Note: Bond surety must be admitted to transact surety insurance in the State of California

End of Section 00502

SECTION 00503 – STATUTORY PAYMENT BOND

STATUTORY PAYMENT BOND PURSUANT TO

California Civil Code
Sections 9550 through 9566

KNOW ALL THESE MEN BY THESE PRESENTS:

That, _____ (hereinafter called the Principal), as Principal, and _____, a corporation organized and existing under the laws of the State of _____, with its principal office in the City of _____, (hereinafter called the Surety), as Surety, are held and firmly bound unto the **COUNTY OF TULARE** (hereinafter called the Obligee), in the amount of _____ Dollars (\$ _____), for the payment whereof, the said Principal and Surety bind themselves, and their heirs, administrators, executors, successors and assigns, jointly and severally, firmly by these presents.

WHEREAS, the Principal has entered into a certain written Agreement with the Obligee, dated the _____ day of _____, to _____ which Agreement is hereby referred to and made a part hereof as fully and to the same extent as if copied at length herein.

NOW, THEREFORE, THE CONDITION OF THIS OBLIGATION IS SUCH that if said Principal, its heirs, executors, administrators, successors, or assigns, or subcontractor, shall fail to pay any person or persons named in Civil Code Section 9100; or fail to pay for any materials, provisions, or other supplies, used in, upon, for, or about the performance of the work contracted to be done, or for any work or labor thereon of any kind, or for amounts due under the Unemployment Insurance Code, with respect to work or labor thereon of any kind; or shall fail to deduct, withhold, and pay over to the Employment Development Department, any amounts required to be deducted, withheld, and paid over by Unemployment Insurance Code Section 13020 with respect to work and labor thereon of any kind, then said Surety will pay for the same, in an amount not exceeding the amount herein above set forth, and in the event suit is brought upon this bond, also will pay such reasonable attorneys' fees as shall be fixed by the court, awarded and taxed as provided in California Civil Code Section 9550 et. seq.

This bond shall inure to the benefit of any person named in California Civil Code Section 9100 giving such person or his/her assigns a right of action in any suit brought upon this bond.

It is further stipulated and agreed that the Surety of this bond shall not be exonerated or released from the obligation of the bond by any change, extension of time for performance, addition, alteration or modification in, to, or of any contract, plans, or specifications, or agreement pertaining or relating to any scheme or work of improvement herein above described; or pertaining or relating to the furnishing of labor, materials, or equipment therefor; nor by any change or modification of any terms of payment or extension of time for payment pertaining or relating to any scheme or work of improvement herein above described; nor by any rescission or attempted rescission of the contract, agreement or bond; nor by any conditions precedent or subsequent in the bond attempting to limit the right of recovery of claimants otherwise entitled to recover under any such contract or agreement or under the bond; nor by any fraud practiced by any person other than the claimant seeking to recover on the bond; and that this bond be construed most strongly against the Surety and in favor of all persons for whose benefit such bond is given; and under no circumstances shall the Surety be released from liability to those for whose benefit such bond has been given, by reason of any

breach of contract between the Obligee and the Principal or on the part of any obligee named in such bond; that the sole condition of recovery shall be that the claimant is a person described in California Civil Code Section 9100, and who has not been paid the full amount of his or her claim; and that the Surety does hereby waive notice of any such change, extension of time, addition, alteration or modification herein mentioned.

Witness our hands this _____ day of _____

Principal Seal

By

Surety Seal

By

Agency of Record

Agency Address

Note: Bond surety must be admitted to transact surety insurance in the State of California.

End of Section 00503

SECTION 00506 - AGREEMENT BETWEEN COUNTY AND CONTRACTOR

AGREEMENT

BETWEEN

COUNTY AND CONTRACTOR

AGREEMENT

Made as of the _____ day of _____ in the year of Two Thousand and Nineteen.

BETWEEN the County: **COUNTY OF TULARE, A POLITICAL SUBDIVISION OF THE STATE OF CALIFORNIA**

and the Contractor: _____

The Project: Tulare County – **Three Rivers Museum Restrooms, 42268 Sierra Drive, Three Rivers, CA 93271**

The County’s Representative: Victor Calderon – Capital Projects - County of Tulare

The Architect: SKW Architects

The County and the Contractor agree as set forth below.

ARTICLE 1

THE CONTRACT DOCUMENTS

The Contract Documents consist of this Agreement, the General Conditions and those documents enumerated in Sub-paragraph 1.1.1 of the General Conditions, which documents are hereby incorporated into this Agreement and made a part hereof.

ARTICLE 2

THE WORK

The Contractor shall perform all the Work required by the Contract Documents for the Tulare County – Three Rivers Museum Restroom construction project, 42268 Sierra Drive, Three Rivers, CA 93271.

ARTICLE 3

TIME OF COMMENCEMENT AND COMPLETION

The Work to be performed under this Contract shall be commenced within Ten (10) calendar days after the date the Notice to Proceed is received by the Contractor and, subject to authorized adjustments, Completion of the Work shall be achieved for The Project within **90** calendar days from the date to be established in the "NOTICE TO PROCEED". The Agreement includes provisions for Liquidated Damages if the Project is not completed within the agreed time of completion. If Contractor fails to complete the Work within the Contract Time, Contractor shall pay to County, as liquidated damages and not as a penalty, the sum of **\$500.00** for each day after the expiration of the Contract Time that the Work remains incomplete.

County and Contractor agree that if the Work is not completed within the Contract Time, County's damages would be extremely difficult or impracticable to determine and that the aforesaid amounts are reasonable estimates of and reasonable sums for such damages. County may deduct any liquidated damages due from Contractor from any amounts otherwise due to Contractor under the Contract Documents. This provision shall not limit any right or remedy of County in the event of any other default of Contractor other than failing to complete the Work within the Contract Time.

ARTICLE 4

CONTRACT SUM

The County shall pay the Contractor in current funds for the performance of the Work, subject to additions and deductions by Change Order or as otherwise provided in the Contract Documents, the Sum of _____.

ARTICLE 5

PROGRESS PAYMENTS

Based upon Applications for Payment submitted to the County by the Contractor and Project Certificates for Payment issued by the County's Representative, the County shall make progress payments on account of the Contract Sum to the Contractor as provided in the Contract Documents as follows:

Progress Payments: The Contractor shall, on or before the first day of each month, make an estimate of the work performed during the preceding month and submit same to the County's Representative for checking and approval. On or about the 20th day of the month, following the month in which the work was performed, the County shall pay to the Contractor ninety-five (95%) percent of the value of said work in place, as checked and approved by the County's Representative. The balance of five (5%) percent of the estimate shall be retained by the County until the time of final acceptance of said work.

ARTICLE 6

FINAL PAYMENT

Final payment, constituting the entire unpaid balance of the Contract Sum, shall be paid by the County to the Contractor when the Work has been completed; the Contract fully performed, the County's Representative has issued a Project Certificate for Payment, which approves the final payment due the Contractor and the Board of Supervisors of Tulare County has formally accepted the project as complete by Resolution.

ARTICLE 7

MISCELLANEOUS PROVISIONS

7.1 Terms used in this Agreement, which are defined in the "GENERAL CONDITIONS" of the contract shall have the meanings designated in those Conditions.

7.2 Notices shall be addressed as follow:

COUNTY

Board of Supervisors
County of Tulare
County Civic Center
2800 W. Burrel Avenue
Visalia, CA 93291
(559) 636-5000

CONTRACTOR

COUNTYS REPRESENTATIVE

Victor Calderon
County of Tulare
Capital Projects
2637 W. Burrel Ave.
Visalia, CA 93291
(559)205 -1100 – Phone

SURETY

7.3 **PREVAILING WAGES.** The Contractor agrees that State Prevailing Wages apply to this Project, and that the Contractor will pay the rates for each trade or craft and shall require the subcontractors on the project to pay the rates for each trade and craft. The State Wage Determinations are on file with the General Services, 2637 W. Burrel Ave., Ste. 200, Visalia, California, and will be made available to any interested person on request; and the Payroll Submittal Information attached hereto as Section 00508 are incorporated herein as if set forth in full and are a part of this Contract. The Contractor agrees to repay the County any and all amounts paid to any subcontractor in violation of Public Contract Code Section 6109.

7.4 **COMPLIANCE WITH LAW:** CONTRACTOR shall provide services in accordance with applicable Federal, State, and local laws, regulations and directives. With respect to CONTRACTOR'S employees, CONTRACTOR shall comply with all laws and regulations pertaining to wages and hours, state and federal income tax, unemployment insurance, Social Security, disability insurance, workers' compensation insurance, and discrimination in employment.

7.5 **RECORDS AND AUDIT:** CONTRACTOR shall maintain complete and accurate records with respect to the services rendered and the costs incurred under this Agreement. In addition, CONTRACTOR shall maintain complete and accurate records with respect to any payments to employees or subcontractors. All such records shall be prepared in accordance with generally accepted accounting procedures, shall be clearly identified, and shall be kept readily accessible. Upon request, CONTRACTOR shall make such records available within Tulare County to the Auditor of Tulare County and to his agents and representatives, for the purpose of auditing and/or copying such records for a period of five (5) years from the date of final payment under this Agreement.

7.6 **INDEPENDENT CONTRACTOR STATUS:**
a. This Agreement is entered into by both parties with the express understanding that CONTRACTOR will perform all services required under this Agreement as an independent contractor. Nothing in this Agreement shall be construed to constitute the CONTRACTOR or any of its agents, employees or officers as an agent, employee or

officer of COUNTY.

b. CONTRACTOR agrees to advise everyone it assigns or hires to perform any duty under this agreement that they are not employees of COUNTY. Subject to any performance criteria contained in this Agreement, CONTRACTOR shall be solely responsible for determining the means and methods of performing the specified services and COUNTY shall have no right to control or exercise any supervision over CONTRACTOR as to how the services will be performed. As CONTRACTOR is not COUNTY'S employee, CONTRACTOR is responsible for paying all required state and federal taxes. In particular, COUNTY will not:

- i. Withhold FICA (Social Security) from CONTRACTOR'S payments.
- ii. Make state or federal unemployment insurance contributions on CONTRACTOR'S behalf.
- iii. Withhold state or federal income tax from payments to CONTRACTOR.
- iv. Make disability insurance contributions on behalf of CONTRACTOR.
- v. Obtain unemployment compensation insurance on behalf of CONTRACTOR.

c. Notwithstanding this independent contractor relationship, COUNTY shall have the right to monitor and evaluate the performance of CONTRACTOR to assure compliance with this Agreement.

7.7 **INDEMNIFICATION AND DEFENSE:** CONTRACTOR shall hold harmless, defend and indemnify COUNTY, its agents, officers and employees in accordance with paragraph 4.17 of the General Conditions. This indemnification specifically includes any claims that may be made against COUNTY by any taxing authority asserting that an employer-employee relationship exists by reason of this Agreement, and any claims made against COUNTY alleging civil rights violations by CONTRACTOR under Government Code sections 12920 et seq. (California Fair Employment and Housing Act), and any fines or penalties imposed on COUNTY for CONTRACTORS failure to provide form DE-542, when applicable. This indemnification obligation shall continue beyond the term of this Agreement as to any acts or omissions occurring under this Agreement or any extension of this Agreement.

The absence of insurance or insufficient insurance limits will not eliminate the obligation to indemnify and defend hereunder.

7.8 **CONFLICT OF INTEREST:**

a. CONTRACTOR agrees at all times in performance of this Agreement to comply with the law of the State of California regarding conflicts of interests or appearance of conflicts of interests, including, but not limited to Government Code Section 1090 et seq., and the Political Reform Act, Government Code Section 81000 et seq. and regulations promulgated pursuant thereto by the California Fair Political Practices Commission. The statutes, regulations and laws previously referenced include, but are not limited to, prohibitions against any public officer or employee, including CONTRACTOR for this purpose, from the making of any decision on behalf of COUNTY in which such officer, employee or consultant has a direct or indirect financial interest. A violation can occur if the public officer, employee or consultant participates in or influences any COUNTY

decision which has the potential to confer any pecuniary benefit on CONTRACTOR or any business firm in which CONTRACTOR has an interest, with certain narrow exceptions.

b. CONTRACTOR agrees that if any facts come to its attention which raise any questions as to the applicability of conflicts of interests' laws, it will immediately inform the COUNTY designated representative and provide all information needed for resolution of this question.

- 7.9 **ENTIRE AGREEMENT REPRESENTED:** This Agreement represents the entire agreement between CONTRACTOR and COUNTY as to its subject matter and no prior oral or written understanding shall be of any force or effect. No part of this Agreement may be modified without the written consent of both parties.
- 7.10 **HEADINGS:** Section headings are provided for organizational purposes only and do not in any manner affect the scope, meaning or intent of the provisions under the headings.
- 7.11 **CONSTRUCTION:** This Agreement reflects the contributions of both parties and accordingly the provisions of Civil Code section 1654 shall not apply to address and interpret any uncertainty.
- 7.12 **NO THIRD PARTY BENEFICIARIES INTENDED:** Unless specifically set forth, the parties to this Agreement do not intend to provide any other party with any benefit or enforceable legal or equitable right or remedy.
- 7.13 **GOVERNING LAW:** This Agreement shall be interpreted and governed under the laws of the State of California without reference to California conflicts of law principles. The parties agree that this contract is made in and shall be performed in Tulare County California.
- 7.14 **WAIVERS:** The failure of either party to insist on strict compliance with any provision of this Agreement shall not be considered a waiver of any right to do so, whether for that breach or any subsequent breach. The acceptance by either party of either performance or payment shall not be considered to be a waiver of any preceding breach of the Agreement by the other party.
- 7.15 **EXHIBITS AND RECITALS:** The Recitals and the Exhibits to this Agreement are fully incorporated into and are integral parts of this Agreement.
- 7.16 **CONFLICT WITH LAWS OR REGULATIONS/SEVERABILITY:** This Agreement is subject to all applicable laws and regulations. If any provision of this Agreement is found by any court or other legal authority, or is agreed by the parties, to be in conflict with any code or regulation governing its subject, the conflicting provision shall be considered null and void. If the effect of nullifying any conflicting provision is such that a material benefit of the Agreement to either party is lost, the Agreement may be terminated at the option of the affected party. In all other cases the remainder of the Agreement shall continue in full force and effect.
- 7.17 **FURTHER ASSURANCES:** Each party will execute any additional documents and perform any further acts which may be reasonably required to effect the purposes of this Agreement.
- 7.18 **ASSURANCES OF NON-DISCRIMINATION:** CONTRACTOR shall not discriminate in employment or in the provision of services on the basis of any characteristic or condition

This Agreement entered into as of the day and year first written above.

COUNTY

CONTRACTOR

CHAIRMAN, BOARD OF SUPERVISORS

Signature

Typed Name

Signature

Typed Name

COUNTY OF TULARE
Civic Center
Visalia, CA 93291

Address

ATTEST: Jason T. Britt
County Administrative Officer/Clerk of
The Board of Supervisors of the
County of Tulare

BY: _____

APPROVED AS TO FORM

County Counsel

END OF SECTION 00506

SECTION 00507 - STATE WAGE DETERMINATION

1.1 INSTRUCTIONS:

- 1.1.1 THE GENERAL CONTRACTOR IS REQUIRED TO POST THE ATTACHED STATE WAGE DETERMINATION ON THE JOB SITE FOR THE PROJECT IN CONSPICUOUS LOCATION AVAILABLE TO EACH TRADE WORKING ON THE PROJECT.**

GENERAL CONTRACTOR
IS REQUIRED
TO POST
THIS
STATE WAGE DETERMINATION
ON THE JOB SITE
FOR THE PROJECT:

TULARE COUNTY- THREE RIVERS MUSEUM RESTROOM, 42268 SIERRA DRIVE, THREE RIVERS, CA 93271

END OF SECTION 00507

SECTION 00508 - PAYROLL SUBMITTAL INFORMATION

1.1 INSTRUCTIONS FOR PAYROLL SUBMITTALS

1.1.1 The Contractor will submit payroll records to the California Department of Industrial Relations per their submittal requirements. The County of Tulare does not maintain Certified Payroll Records. Those requesting Certified payroll records may obtain them from the Department of Industrial Relations via their website <https://www.dir.ca.gov/>.

END OF SECTION 00508

**CONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT
(Civil Code section 8132)**

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Identifying Information

Name of Claimant: _____

Name of Customer: County of Tulare _____

Job Location: _____

Owner: County of Tulare _____

Through Date: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: County of Tulare _____

Amount of Check: \$ _____

Check Payable to: _____

Exceptions

This document does not affect any of the following:

- (1) Retentions.
- (2) Extras for which the claimant has not received payment.
- (3) The following progress payments for which the claimant has previously given a conditional waiver and release but has not received payment:

Date(s) of waiver and release: _____

Amount(s) of unpaid progress payment(s): \$ _____

- (4) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

UNCONDITIONAL WAIVER AND RELEASE UPON PROGRESS PAYMENT
(Civil Code section 8134)

NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE AGAINST YOU IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Identifying Information

Name of Claimant: _____

Name of Customer: County of Tulare _____

Job Location: _____

Owner: County of Tulare _____

Through Date: _____

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job through the Through Date of this document. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has received the following progress payment: \$ _____

Exceptions

This document does not affect any of the following:

- (1) Retentions.
- (2) Extras for which the claimant has not received payment.
- (3) Contract rights, including (A) a right based on rescission, abandonment, or breach of contract, and (B) the right to recover compensation for work not compensated by the payment.

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

CONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT
(Civil Code section 8136)

NOTICE: THIS DOCUMENT WAIVES THE CLAIMANT'S LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS EFFECTIVE ON RECEIPT OF PAYMENT. A PERSON SHOULD NOT RELY ON THIS DOCUMENT UNLESS SATISFIED THAT THE CLAIMANT HAS RECEIVED PAYMENT.

Identifying Information

Name of Claimant: _____

Name of Customer: County of Tulare _____

Job Location: _____

Owner: County of Tulare _____

Through Date: _____

Conditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. This document is effective only on the claimant's receipt of payment from the financial institution on which the following check is drawn:

Maker of Check: County of Tulare _____

Amount of Check: \$ _____

Check Payable to: _____

Exceptions

This document does not affect any of the following:

Disputed claims for extras in the amount of: \$ _____

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

**UNCONDITIONAL WAIVER AND RELEASE UPON FINAL PAYMENT
(Civil Code section 8138)**

NOTICE TO CLAIMANT: THIS DOCUMENT WAIVES AND RELEASES LIEN, STOP PAYMENT NOTICE, AND PAYMENT BOND RIGHTS UNCONDITIONALLY AND STATES THAT YOU HAVE BEEN PAID FOR GIVING UP THOSE RIGHTS. THIS DOCUMENT IS ENFORCEABLE IF YOU SIGN IT, EVEN IF YOU HAVE NOT BEEN PAID. IF YOU HAVE NOT BEEN PAID, USE A CONDITIONAL WAIVER AND RELEASE FORM.

Identifying Information

Name of Claimant: _____

Name of Customer: County of Tulare _____

Job Location: _____

Owner: County of Tulare _____

Through Date: _____

Unconditional Waiver and Release

This document waives and releases lien, stop payment notice, and payment bond rights the claimant has for all labor and service provided, and equipment and material delivered, to the customer on this job. Rights based upon labor or service provided, or equipment or material delivered, pursuant to a written change order that has been fully executed by the parties prior to the date that this document is signed by the claimant, are waived and released by this document, unless listed as an Exception below. The claimant has been paid in full.

Exceptions

This document does not affect any of the following:

Disputed claims for extras in the amount of: \$ _____

Signature

Claimant's Signature: _____

Claimant's Title: _____

Date of Signature: _____

END OF SECTION 00509

SECTION 00700 - GENERAL CONDITIONS

TABLE OF ARTICLES

1. CONTRACT DOCUMENTS
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14. TERMINATION OF THE CONTRACT
15. ADDITIONAL INSTRUCTIONS
16. GUARANTEE

ARTICLE 1
CONTRACT DOCUMENTS

1.1 DEFINITIONS

Whenever the following terms, titles, or phrases are used in the Contract Documents, the intent and meaning thereof shall be as defined in this article.

Addendum/Addenda.

"Addendum" or "Addenda" are written documents furnished by the County before award of the Contract, interpreting or modifying plans and specifications or answering questions of intended bidders, and shall be incorporated in and are a part of the Contract Documents.

Alternate.

The "Alternate" is the sum to be added to or deducted from the Base Bid if the change in scope of work as described in Alternates is accepted by the County.

Architect

The "Architect" is the consulting firm engaged as an agent by the County to perform the services set forth in the Contract Documents. The Architect is designated by the Board of Supervisor's as the County's agent to perform all functions delegated to the Architect by the Contract Documents.

Architect's Instruction Bulletin

"Architect's Instruction Bulletins" are supplemental drawings or instructions which may be issued as necessary from time to time to make clear or define in greater detail the intent of the Contract Drawings and Specifications. There may be a change in Contract Sum or Contract Time involved with the work shown in the Bulletin.

Bid.

"Bid" shall mean the offer of the bidder to do the Work, when submitted on the prescribed bid form, properly executed and bonded, at the designated time and location.

Change Order.

"Change Order" shall mean a written order to the Contractor, issued after execution of the Contract, authorizing a change in the Work and/or an adjustment in the Contract Sum and/or the Contract Time.

Closeout Documents.

Documents as required to meet the requirements of final completion.

Contract.

The legally binding agreement between the County and the Contractor wherein the Contractor agrees to furnish the labor, materials, equipment, plant and appurtenances required to perform the work described in the Contract Documents and the County agrees to pay the Contractor for such work.

Construction Manager.

"Construction Manager" shall mean the firm or County employee engaged by the County as an agent to perform all functions delegated to the Construction Manager by the Contract Documents. The Construction Manager will be the Contractor's primary contact during construction of the Project.

Construction Schedule.

The "Construction Schedule" is the schedule produced by the Contractor in response to the requirements shown in the Preliminary Bid Schedule.

Construction Administrative Procedures Manual.

The "Construction Administrative Procedures Manual" is the manual produced by the Construction Manager to describe the administrative procedures which will be used on the job-site during construction. This manual outlines administrative procedures which are described in detail in these General Conditions, as well as describing other administrative procedures which may be specific to the Project.

Contract Documents.

The "Contract Documents" shall include the Advertisement for Bids, the Instructions for Bidders, the Proposal Form, the Agreement between County and Contractor, the Bid Bond, the Performance Bond, the Payment Bond, these General Conditions, the Special Provisions, the General Requirements, Exhibits, the Technical Specifications, the contract drawings and plans, all duly issued Addenda, Modifications, Interpretations, and Change Orders, Supplemental Drawings, the Contractor's Guarantee and Bond, the Construction Administrative Procedures Manual, the Subcontractor Listing, Preliminary Construction Schedule and the Construction Schedule in its most recently updated and accepted version. A modification is a written amendment to the agreement signed by both parties.

Contract Drawings or Plans.

The "Contract Drawings" (sometimes referred to as "drawings" or "plans") are the plans and working drawings which show the location, character, dimensions and details of the Work to be performed, and all supplemental drawings issued by the County. Once approved, all such supplemental drawings are incorporated into and become a part of the Contract Documents.

Contract Sum.

"Contract Sum" is the total amount payable by the County to the Contractor for the performance of the Work under the Contract Documents. The Contract Sum is the amount stated in the Agreement for Construction, including authorized adjustments thereto.

Contract Time.

"Contract Time" shall mean the period specified for completion of the Work, as set forth in the Agreement for Construction and adjusted by any change order issued pursuant to the Contract Documents.

Contractor

"The Contractor" shall mean the person or persons, partnership, or corporation, who have entered into the Agreement for Construction of the Work with the County or its legal representatives, or successors, assigns, executors, or heirs. The Contractor is required by law to be licensed as and will perform work or render services as a prime contractor.

Date of Commencement.

"Date of Commencement" is the date established in the Notice to Proceed. If there is no Notice to Proceed, it shall be the date of the Agreement for Construction or such other date as may be established therein.

Date of Completion.

The "Date of Completion" is the date certified by the Construction Manager when construction of the Work is 100% complete including acceptance by the Architect of all punch list corrections. .

Day.

Unless otherwise expressly defined, a "day" shall mean a calendar day of 24 hours, including each and every day of the year.

Equal (as in "or equal").

"Equal" shall mean a system, product or material which is similar in all respects to that shown or specified but produced by a manufacturer not listed in the specification. See also: Substitution.

First Line Supervision.

"First Line Supervision" shall mean a working foreman or lead craft worker other than the project superintendent.

Inspector.

The "Inspector" shall mean the person or persons employed or engaged as (an) independent contractor(s) by the County to inspect the performance of the Work by the Contractor for compliance with the Contract Documents. The County Inspector is hereby designated as an agent of the County for such purpose and no other. The County Inspector is supervised by, and reports to, the County. The authority of the County Inspector to monitor the Work shall be strictly limited to that authority specified herein and in Title 24, California Code of Regulations, and no additional authority has been granted nor shall be inferred. The Architect may be designated as the County Inspector, in which case the Architect shall perform the function and have the authority of both positions.

Interpretations.

"Interpretations" are all clarifications, additional instructions, and explanations issued by the Architect after award of the Contract.

Materials.

"Materials" is a generic term which shall include all building materials, articles, supplies, and equipment delivered to the project for incorporation in the Work. "Materials" includes everything incorporated into the Work except labor, unless otherwise noted.

Equipment

"Equipment" shall mean all pre-manufactured or partially preassembled products or components, assembled or partially assembled before delivery to the site.

Milestone Completion Date.

The "Milestone Completion Date" is the date certified by the Construction Manager when construction of the Work of any phase is 100% complete including acceptance by the Architect of all punch list corrections.

Notice of Intent to Award.

The "Notice of Intent to Award" is issued following County approval of bids. It authorizes the Contractor to obtain required bonds and insurance and to procure all materials and equipment necessary to fulfill its contract within the time shown in the schedule.

Notice to Proceed.

"Notice to Proceed" is the notice given to the Contractor following execution of the Agreement for Construction and receipt of all required preconstruction submittals as itemized in the Notice of Intent to Award, which establishes the start of the Work and authorizes the Contractor to begin construction.

Product Data.

"Product Data" shall mean illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.

Project.

"Project" shall mean the complete work of improvement referenced in the Contract Documents, of which the Work may be only a portion.

Project Manual.

"Project Manual" is the Introductory Information (Division 0), the General Requirements (Division 1) and the Project Specifications.

Proposed Change Order (PCO).

A "Proposed Change Order (PCO)" is the name given to a document issued by the Construction Manager authorizing work to proceed on a change in anticipation of approval and issuance by the County of a Change Order.

Provide.

"Provide" shall mean to furnish, install, and connect complete and ready for use.

Reference to Codes.

Unless otherwise noted, all references to statutes are to the laws of the State of California as codified in the various specified codes.

Request for Proposal (RFP).

A "Request for Proposal" is the name given to a document issued by the Construction Manager requesting pricing information for a described scope of work.

Samples.

"Samples" shall mean physical examples which illustrate materials, equipment or workmanship and establish standards by which the Work will be judged.

Shop Drawings.

"Shop Drawings" shall mean drawings, diagrams, schedules and other data specifically prepared by the Contractor or any subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

Site.

"Site" is the area within which the Project is to be constructed.

Special Inspector.

The "Special Inspector" shall mean the person or persons employed or engaged as (an) independent contractor(s) by the County to inspect the performance of specific aspects of the work as required by Title 24, California Code of Regulations.

Special Provisions.

The "Special Provisions" are specific clauses setting forth conditions or requirements peculiar to the Work, and supplementary to the General Conditions and Technical Specifications.

Specifications.

"Specifications" include the special provisions, general conditions, general requirements, and technical specifications applicable to the Work, all duly executed and issued addenda and interpretations, and all modifications approved by the County pursuant to a change order.

Subcontractor.

"Subcontractor" shall mean each person or firm who is required by law to be and who is licensed to and will perform work, labor, or render services to the Contractor in or about the construction of the Work, or who, under subcontract to the Contractor, fabricates and installs a portion of the work or improvement.

"Subcontractor" shall include all persons or firms within the authority of the Subletting and Subcontracting Fair Practices Act, Chapter 2 of Division 5, Title I of the Public Contract Code, commencing with Section 4100.

Substitution.

"Substitution" shall mean a system, process, product or material similar in form or function and equal in quality and performance to that shown or specified, but differing in some essential element, e.g., chemical composition, mechanism of action, surface finish, dimensions, durability, electrical or mechanical or

plumbing requirements. See also: Equal.

Supply.

“Supply” shall mean to furnish only, complete and ready for installation, including shipping, delivery, protection, and any assembly required prior to installation.

Work.

The “Work” shall mean that scope of work included in this Contract.

1.1.1 **THE CONTRACT DOCUMENTS**

The “Contract Documents” shall include the Advertisement for Bids, the Instructions to Bidders, the Proposal Form, the Agreement between the County and Contractor, the Bid Bond, the Performance Bond, the Payment Bond, these General Conditions, the Special Provisions, the General Requirements, Exhibits, the Technical Specifications, the contract drawings and plans, all duly issued Addenda, Modifications, Interpretations, and Change Orders, Supplemental Drawings, the Contractor’s Guarantee and Bond, the Construction Administrative Procedures Manual, the Subcontractor Listing, Preliminary Construction Schedule and the Construction Schedule in its most recently updated and accepted version. A modification is a written amendment to the agreement signed by both parties.

1.1.2 **THE CONTRACT**

The Contract Documents form the Contract for Construction. This Contract represents the entire and integrated agreement between the parties hereto and supersedes all prior negotiations, representations or agreements, either written or oral. The Contract may be amended or modified only by a Modification as defined in Subparagraph 1.1.1. The Contract Documents shall not be construed to create any contractual relationship of any kind between the Construction Manager and the Contractor, but the Construction Manager shall be entitled to performance of the obligations of the Contractor intended for their benefit and to enforcement thereof. Nothing contained in the Contract Documents shall create any contractual relationship between the County, the Construction Manager and any Subcontractor or Sub-subcontractor.

1.1.3 **THE WORK**

The Work comprises the completed construction required of the Contractor by the Contract Documents, and includes all labor, materials, equipment and services necessary to produce such construction, and all materials and equipment incorporated or to be incorporated in such construction for the Tulare County – **Three Rivers Museum Restroom, 42268 Sierra Drive, Three Rivers, CA 93271**

1.1.4 **THE PROJECT**

The Project, as defined in the County-Contractor Agreement, is the total construction of which the Work performed under the Contract Documents is a part.

1.2 **EXECUTION, CORRELATION AND INTENT**

1.2.0 Award of Contract – The County reserves the right to reject any or all proposals, or waive any discrepancy in a proposal. The decision of the County regarding the amount of a bid, or existence or treatment of a discrepancy in a bid will be final. The award of a contract, if it is awarded, will be to the lowest responsible bidder whose proposal complies with all the requirements prescribed. Such award, if made, will be made within 60 days after the opening of proposals. This period may be subject to an extension for such further period as may be agreed

upon in writing by County and the bidder concerned. The following failures are not waivable and will cause the bid to be considered nonresponsive:

- Failure to sign the bid
- Failure to furnish the required bid bond on the provided County form, or a cashier's check in an amount equal to 10% of the base bid
- Failure to include a total amount of the bid

The above list is not inclusive of all failures that the Tulare County Board of Supervisors will consider nonresponsive. However, the Tulare County Board of Supervisors reserves the right to waive other types of discrepancies or failures. The Tulare County Board of Supervisor's decision or treatment regarding a bid will be final.

The Contract shall be signed by the successful bidder and returned within 7 calendar days, not including Tulare County legal holidays, after the bidder has received notice that the Contract has been awarded.

The Contractor shall file with the signed contract two bonds. These bonds shall be in the amount and for the purposes specified below. They shall be surety bonds and shall be issued by corporations duly and legally licensed to transact business in the State of California. They shall be maintained by the Contractor, at its expense, during the entire term of the Contract.

A Performance Bond shall be furnished in the amount of one hundred percent (100%) of the contract price, and shall guarantee faithful performance of the Contract and shall insure the County during the life of the Contract and for the term of 1 year from the date of acceptance of the work against faulty or improper materials or workmanship that may be discovered during that time.

A Payment Bond shall be furnished in an amount not less than one hundred percent (100%) of the contract price and shall guarantee the payment in full of all claims for labor and material in accordance with the provisions of Section 9550-9566 of the Civil Code of the State of California. The life of the Payment Bond shall extend to 30 days after notice of completion is recorded.

All bonds required, whether Bid Bonds, Performance, Payment or other Bonds, shall be issued by an admitted surety insurer. The Bid Bond, Performance Bond and Payment Bond must be issued by the same admitted surety insurer. The Payment and Performance Bonds required by these specifications will neither be accepted nor approved by the County unless bonds are in the forms shown in Sections 502 and 503 of the specifications and are underwritten by an admitted surety. The County further reserves the right to satisfy itself as to the acceptability of the surety and the form of bond. The Bidder may be required to submit the following documents:

1. The original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws, or other instrument authorizing the person who executed the bond to do so.
2. A certified copy of the certificate of authority of the insurer issued by the California Insurance Commissioner.
3. A certificate from the County Clerk that the certificate of authority has not been surrendered, revoked, canceled, annulled, or suspended, or in the event that it has, that renewed authority has been granted.
4. A financial statement of the assets and liabilities of the insurer to the end of the quarter calendar year prior to 30 days next preceding the date of the execution of the bond, in the

form of an officers' next preceding the date of the execution of the bond, in the form of an officers' certificate as defined in Corporations Code 173.

- 1.2.1 The Contract Documents shall be signed in not less than three original copies by the County and the Contractor.
- 1.2.2 Execution of the Contract by the Contractor is a representation that the Contractor has visited the site, become familiar with the local conditions under which the Work is to be performed, and has correlated personal observations with the requirements of the Contract Documents.
- 1.2.3 Subject to Article 12, the Contract Documents, including the specifications and plans and drawings, are complementary and what is called for by any one shall be as binding as if called for by all. In case of conflict, large scale (detail) drawings shall govern over small-scale drawings, the specifications shall govern over both the construction administrative procedures manual and the Contract Drawings except as noted below, special provisions shall govern over both the contract drawings and the general conditions, and subsequent addenda, interpretations, or change orders shall govern over the original documents, unless a different order of precedence is noted elsewhere in conjunction with a specific portion of the documents.
- 1.2.4 Subject to Article 15.10.1, in cases of discrepancy concerning dimension, quantity and location, the Specifications shall take precedence over the Drawings. Explanatory notes on the Drawings shall take precedence over conflicting drawn indications. Large Scale details shall take precedence over smaller scale details and figured dimensions shall take precedence over scaled measurement. Where figures are not shown, scale measurements shall be followed but shall in all cases be verified by measuring actual conditions of Work already in place. In cases of discrepancy concerning quality and application of materials and non-technical requirements over materials, the specifications shall take precedence over Drawings. In the case of discrepancy between the General Conditions and the General Requirements, the General Requirements shall take precedence.
- 1.2.5 Where on any Drawing a portion of the Work is drawn out and the remainder is indicated in outline, the drawn-out parts shall apply to all other like portions of the Work. Where ornament or other detail is indicated as starting, such detail shall be continued throughout the courses or parts in which it occurs and shall also apply to other similar parts in the Work, unless otherwise indicated.
- 1.2.6 Scale drawings, full-size details, and specifications are intended to be fully coordinated and to agree. Where not specifically stated otherwise, all work and materials necessary for each unit of construction, even though only briefly mentioned or indicated, shall be furnished and installed fully and completely, including, but not limited to, the manufacturer's instructions and/or recommendations, as part of this Contract.
- 1.2.7 Any material specified by reference to the number, symbol, or title of a specified standard such as a Commercial Standard, a Federal Specification, a trade association standard, or other similar standards, shall comply with the requirements in the latest approved revision thereof and any amendments or supplements thereto in effect on the date of Advertisement for Bids, except as limited to type, class, or grade, or modified in such reference. The standards referred to, except as modified in the Specifications, shall have full force and effect as though printed in these Specifications.
- 1.2.8 Diagrammatic Drawings: Drawings showing the locations of equipment, wiring, piping, etc., unless dimensioned, are diagrammatic, and conditions will not always permit their installation in the exact location shown. In such event, the Contractor shall notify the Construction Manager and obtain an interpretation before proceeding with the work in question. Unless site conditions

are significantly different than could have been reasonably anticipated, installation as specified in the interpretation shall be without any additional compensation to the Contractor.

- 1.2.9 Architect's Instruction Bulletins and Drawings.
In addition to the Drawings incorporated in the Contract Documents, the Architect, through the Construction Manager, may furnish such supplemental drawings or instructions from time to time as may be necessary to make clear or to define in greater detail the intent of the Contract Drawings and Specifications. In furnishing additional drawings or instructions, the Architect shall have the authority to make minor changes in the Work, not involving any extra cost, and not inconsistent with the overall design of the Project. If extra cost is known to be involved, these instructions will be accompanied by a PCO/RFP. These supplemental drawings and instructions shall be signed and returned by the Contractor within five (5) days and shall become a part of the Contract Documents; the Contractor shall make its work conform to them.
- 1.2.10 If the Contractor observes any errors, discrepancies or omissions in the Contract Documents, it shall promptly notify the Construction Manager requesting clarification. If the Contractor proceeds with work affected by such errors, discrepancies or omissions, without having received such clarification, it does so at its own risk. Any adjustments involving such circumstances made by the Contractor, prior to approval by the Construction Manager, shall be at the Contractor's risk and the settlement of any complications or disputes arising there from shall be at the Contractor's sole expense and Contractor shall indemnify, hold harmless and defend County, and Construction Manager from any liability or loss with respect to said adjustments.
- 1.2.11 When the Contractor does not agree that work due to an interpretation or supplemental drawing or instruction is within the scope of the Contract Documents, the Contractor shall nevertheless perform such work without delay as directed in writing by the Construction Manager. Within seven (7) days after receipt of the interpretation or instruction, the Contractor shall submit a change order request to the Construction Manager specifying in detail in what particulars the Contract requirements were exceeded and the change in cost resulting there from. The Construction Manager shall then determine whether a Change Order shall be issued in accordance with Article 12 of these General Conditions.
- 1.2.12 The time during which the protest is pending shall not affect the Contract Time. Contract time extensions shall be based solely on extra time required for work performed.
- 1.2.13 All work and material shall be the best of the respective kinds specified or indicated. Should any workmanship or materials be required, which are not directly or indirectly called for in the Specifications and/or shown on the Drawings, but which are necessary for proper fulfillment of the obvious intent thereof, said workmanship or materials shall be the same for similar parts that are detailed, indicated or specified, and the Contractor shall understand the same to be implied and provide for it in its tender as if it were particularly described or delineated.

1.3 OWNERSHIP AND USE OF DOCUMENTS

- 1.3.1 All Drawings, Specifications and copies thereof furnished are and shall remain the property of the County. With the exception of one Contract set for each party to the Contract, such documents are to be returned by Contractor or suitably accounted for to the County on request at the completion of the Work. Submission or distribution to meet official regulatory requirements or for other purposes in connection with the Project is not to be construed as publication in derogation of the Architect's common law copyright or other reserved rights. The County's use of the documents will not increase the Architect's design liability beyond the Project and the site for which the design was originally intended.

ARTICLE 2
ADMINISTRATION OF THE CONTRACT

2.1 THE PROJECT ARCHITECT

- 2.1.1 The Project ARCHITECT is the person lawfully licensed to practice architecture, or an entity lawfully practicing architecture, identified as such in the County-Contractor Agreement. The term Project Architect means the Architect or the Architect's authorized representative.
- 2.1.2 The Project Architect is the Architect or firm engaged as an independent Contractor by the County to design the Project, and all subconsultants or joint venturers of the Project Architect. The authority of the Project Architect to bind the County is limited to that authority specified in the Contract Documents, and no additional authority has been granted, nor shall be inferred.
- 2.1.3 The Project Architect advises the Construction Manager in all aspects of the construction phase of the Project. Its functions include advice and assistance to the Construction Manager in the correct interpretation and application of the Contract Documents. However, the Construction Manager is the County's representative on the Project, not the Project Architect.
- 2.1.4 The Contractor shall deliver all correspondence relating to the proper execution of the Work to the Construction Manager, with a copy delivered to the Project Architect. The Construction Manager reserves the right to consult with the Project Architect prior to responding to the Contractor's correspondence.
- 2.1.5 When discussions between the Contractor and the Construction Manager occur either on the site or elsewhere, but the Project Architect is not present, the Construction Manager reserves the right to consult with the Project Architect prior to issuing his/her final decision or instructions.
- 2.1.6 The Project Architect will review or take other appropriate action upon the Contractor's submittals such as Shop Drawings, Product Data and Samples, but only for conformance with the design concept of the Work and the information given in the Contract Documents. Such action shall be taken within ten (10) working days so as to cause no delay. The Project Architect's review of a specific item shall not indicate approval of an assembly of which the item is a component.

2.2 THE CONSTRUCTION MANAGER

- 2.2.1 The "Construction Manager" is the County's designated representative in all aspects of administering the construction Contract on behalf of the County. All communications from the Contractor will be channeled through the Construction Manager. **However, the Construction Manager does not have the authority to bind the County in matters affecting adjustments to the time or cost of project as defined in Agreement for Construction.**
- 2.2.2 The Construction Manager will be the County's representative during construction and until final payment to all contractors is due. The Construction Manager will advise and consult with the County. All instructions to the Contractor shall be forwarded through the Construction Manager. The Construction Manager will have authority to act on behalf of the County only to the extent provided in the Contract Documents, unless otherwise modified by written instrument in accordance with Subparagraph 2.2.17.
- 2.2.3 The Construction Manager will determine in general that the Work of the Contractor is being performed in accordance with the Contract Documents, and will endeavor to guard the County against defects and deficiencies in the Work of the Contractor.

- 2.2.4 The Construction Manager will be on-site for the duration of the construction process and will administer the Contractor's Contract and observe and report on the progress of the Work. The Construction Manager will review the progress and quality of the Work and determine in general if the Work is proceeding in accordance with the Contract Documents. On the basis of on-site observations and communication with the Contractor, the Construction Manager will keep the County informed of the progress of the Work, and will endeavor to guard the County against defects and deficiencies in the Work of the Contractor.
- 2.2.5 The Construction Manager shall at all times have access to the Work wherever it is, in preparation and progress. The Contractor shall provide facilities for such access so that the Construction Manager may perform their functions under the Contract Documents.
- 2.2.6 Based on the Construction Manger's observations, and an evaluation of the Contractor's Application for Payment, the Construction Manger will determine the amount owing to the Contractor and will issue to the County Certificates for Payment incorporating such amount, as provided in Paragraph 9.4.
- 2.2.7 The Construction Manager will be the initial interpreter of the requirements of the Contract Documents and the initial judge of the performance thereunder by the Contractor.
- 2.2.8 The Construction Manager will render interpretations necessary for the proper execution or progress of the Work, with reasonable promptness and in accordance with agreed upon time limits. Either party to the Contract may make written request to the Construction Manager for such interpretations.
- 2.2.9 Claims, disputes and other matters in question between the Contractor and the Construction Manager relating to the execution or progress of the Work or the interpretation of the Contract Documents shall be referred to the County Administrative Officer of Tulare County or (his/her designee).
- 2.2.10 All interpretations and decisions of the Construction Manager shall be consistent with the intent of and reasonably inferable from the Contract Documents and will be in writing or in graphic form.
- 2.2.11 The County's decisions in matters relating to artistic effect will be final.
- 2.2.12 The Construction Manager will have the authority to reject or recommend to the County the rejection of work, materials, or workmanship which does not conform to the Contract Documents. Whenever, in the Construction Manager's opinion, it is considered necessary or advisable for the implementation of the intent of the Contract Documents, the Construction Manager will have authority to require special inspection or testing of the Work in accordance with Subparagraph 7.7.1 whether or not such Work be then fabricated, installed or completed.
- 2.2.13 The Construction Manager receives from the Contractor and reviews in conjunction with the Architect all Shop Drawings, Product Data and Samples.
- 2.2.14 The Construction Manager will forward Contractor's submittals such as Shop Drawings, Product Data and Samples, to the Architect for review and approve or for other appropriate action. The Architect's action is only for conformance with the design concept of the Work and the information given in the Contract Documents. Such action shall be taken with reasonable promptness so as to cause no delay. The Architect's approval of a specific item shall not indicate approval of an assembly of which the item is a component.

- 2.2.15 Following consultation with the County, the Construction Manger will take appropriate action on Change Orders in accordance with Article 12, and will have authority to order minor changes in the Work as provided in Subparagraph 12.4.1.
- 2.2.16 The Construction Manager, in conjunction with the Architect, will conduct inspections to determine the date of final completion, and will receive and forward to the County for the County's review written warranties and related documents required by the Contract and assembled by the Contractor. The Construction Manager will issue a final Project Certificate for Payment upon compliance with the requirements of Paragraph 9.8.
- 2.2.17 The duties, responsibilities and limitations of authority of the Construction Manager as the County's representative during construction as set forth in the Contract Documents, will not be modified or extended without written consent of the County, and the Construction Manager, which consent shall not be unreasonably withheld.
- 2.2.18 In case of the termination of the employment of the Construction Manager, the County shall appoint a Construction Manager, whose status under the Contract Documents shall be that of the former Construction Manager, respectively.

ARTICLE 3
COUNTY

3.1 DEFINITION

- 3.1.1 The County is the person or entity identified as such in the County-Contractor Agreement. The term County means the County or the County's authorized representative for this project. The County's authorized representative for this project is the Tulare County Administrative Officer (or his/her designee).

3.2 INFORMATION AND SERVICES REQUIRED OF THE COUNTY

- 3.2.1 Except as provided in Subparagraph 4.7.1, the County shall secure and pay for necessary approvals, easements, assessments and charges required for the construction, use or occupancy of permanent structures or for permanent changes in existing facilities.
- 3.2.2 Information or services under the County's control shall be furnished by the County with reasonable promptness to avoid delay in the orderly progress of the Work.
- 3.2.3 The Contractor will be furnished not more than ten (10) copies of the Drawings and Project Manual, free of charge. Additional copies over this number may be obtained by the Contractor, at the cost of reproduction.
- 3.2.4 The County shall forward all instructions to the Contractor through the Construction Manager.
- 3.2.5 The foregoing are in addition to other duties and responsibilities of the County enumerated herein and especially those in respect to Work By County or By Separate Contractors, Payments and Completion, and Insurance in Articles 6, 9 and 11, respectively.

3.3 COUNTY'S RIGHT TO STOP THE WORK

- 3.3.1 If the Contractor fails to correct defective Work as required by Paragraph 13.2, or persistently fails to carry out the Work in accordance with the Contract Documents, the County, by a written order signed personally or by an agent specifically so empowered by the County in writing, may order the Contractor to stop the Work, or any portion thereof, until the cause for such order has

been eliminated; however, this right of the County to stop the Work shall not give rise to any duty on the part of the County to exercise this right for the benefit of any Contractor or any other person or entity, except to the extent required by Subparagraph 6.1.3.

3.4 **COUNTY'S RIGHT TO CARRY OUT THE WORK**

3.4.1 If the Contractor defaults or neglects to carry out the Work in accordance with the Contract Documents, and fails within three (3) days after receipt of written notice from the County to correct such default or neglect with diligence and promptness, the County may, after an additional written notice and without prejudice to any other remedy the County may have, make good such deficiencies, and may further elect to complete that portion of the Work through such means as the County may select, including the use of a new contractor. In such case an appropriate Change Order shall be issued deducting from the payments then or thereafter due the Contractor the cost of correcting such deficiencies, including compensation for the additional services of the Construction Manager, Architect or other Professionals made necessary by such default, neglect or failure. Such action by the County and the amount charged to the Contractor are both subject to review by the Construction Manager. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the County.

ARTICLE 4 **CONTRACTOR**

4.1 **DEFINITION**

4.1.1 The Contractor is the person or entity identified as such in the County-Contractor Agreement. The term Contractor means the Contractor or the Contractor's authorized representative.

4.2 **REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS**

4.2.1 The Contractor shall carefully study and compare the Contract Documents and shall at once report to the Construction Manager any error, inconsistency or omission that may be discovered. The Contractor shall not be liable to the County or the Construction Manager for any damage resulting from any such errors, inconsistencies or omissions in the Contract Documents unless the Contractor recognized such error, inconsistencies or omissions and knowingly failed to report it to the Construction Manager. The Contractor shall perform no portion of the Work at any time unless authorized by the Contract Documents or, where required, approved Shop Drawings, Product Data or Samples for such portion of the Work.

4.2.2 Neither the County nor the Construction Manager nor Architect assume any responsibility for an understanding or representation made by any of their agents or representatives prior to the execution of the Agreement unless (1) such understanding or representations are expressly stated in the Agreement, and (2) the Agreement expressly provides that responsibility therefore is assumed by the County.

4.2.3 Failure by the Contractor to acquaint himself with all available information will not relieve it from responsibility for estimating properly the difficulty or cost of successfully performing the Work.

4.2.4 The Contractor shall take field measurements and verify field conditions and shall carefully compare such field measurements and conditions and other information known to the Contractor with the Contract Documents before commencing activities. Errors, inconsistencies or omissions discovered shall be reported to the Construction Manager at once.

4.2.5 Before submitting any Request for Information (RFI), or other Contractor-initiated request for

information the Contractor shall determine that the information requested is not clearly provided in the Contract Documents. RFI submittals shall be submitted to the Construction Manager only from the Contractor, or County, and not from any subcontractor, supplier or other vendor, and shall be on a form approved by the Construction Manager and County. The Contractor shall provide a revised and updated RFI Priority Schedule on not less than a weekly basis. The RFI Priority Schedule shall rank RFI's in order of priority and include a brief statement of reason for priority. County-initiated RFI's will not be listed on the Contractor's RFI Priority Schedule. The County will provide the Construction Manager a separate list of County initiated RFI's upon request of the Construction Manager. The Construction Manager will endeavor to respect the order of priorities as requested by the Contractor or County for the overall benefit of the Project. The RFI process is for information and clarification only and may not be utilized to obtain approval for changes in the Work.

4.3 SUPERVISION AND CONSTRUCTION PROCEDURES

- 4.3.1 The Contractor shall supervise and direct the Work, using the Contractor's best skill and attention. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences, procedures, or safety procedures at the project site; and shall coordinate all portions of the Work under the Contract.
- 4.3.2 The Contractor shall be responsible to the County for the acts and omissions of the Contractor's employees, Subcontractors and their agents and employees, and any other persons performing any of the Work under a contract with the Contractor.
- 4.3.3 The Contractor shall not be relieved from the Contractor's obligations to perform the Work in accordance with the Contract Documents either by the activities or duties of the Construction Manager in their administration of the Contract, or by inspections, tests or approvals required or performed under Article 7 by persons other than the Contractor.
- 4.3.4 The County, Construction Manager, and Architect will deal only with the Contractor; and not through subcontractors. The Contractor shall be responsible for the proper execution of the Work. Any and all discussions between any subcontractor and supplier and the County, Construction Manager or the Architect shall be initiated through the Contractor or its representative.
- 4.3.5 The Contractor is to provide training to its employees as needed to insure that proper safety procedures are followed when working with asbestos containing materials. All applicable OSHA standards are to be followed and the Contractor is responsible for proper handling and disposal of asbestos containing materials as a result of its work.

4.4 LABOR AND MATERIALS

- 4.4.1 Unless otherwise provided in the Contract Documents, the Contractor shall provide and pay for all labor, materials, equipment, tools, construction equipment and machinery, water, heat, utilities, transportation, and other facilities and services necessary for the proper execution and completion of the Work, whether temporary or permanent and whether or not incorporated or to be incorporated in the Work.
- 4.4.2 The Contractor shall at all times enforce strict discipline and good order among the Contractor's employees and shall not employ on the Work any unfit person or anyone not skilled in the task assigned them.
- 4.4.3 The Contractor shall deliver to the Construction Manager, prior to final acceptance of the Work as a whole, signed certificates from suppliers of materials and manufactured items stating that

such items conform to the Contract Documents.

- 4.4.4 The Contractor, immediately upon Notice to Proceed (or where shop drawings, samples, etc., are required, immediately upon receipt of approval thereof) shall place orders for all materials, work fabrication, and/or equipment to be employed by it in that portion of the Work contracted for. The Contractor shall keep all materials, work fabrications and/or equipment specified and shall advise the Construction Manager promptly, in writing, of all orders placed and of such materials, work fabrications and/or equipment which may not be available in a timely manner for the purposes of the Contract.
- 4.4.5 Workers whose work is unsatisfactory to the County or the Construction Manager, or are considered by the County or Construction Manager to be careless, incompetent, unskilled or otherwise unfit shall be dismissed from work under the Contract upon written request to the Contractor from the County or the Construction Manager. Any costs associated with dismissal are the responsibility of the Contractor. Any termination of a subcontractor pursuant to this Section shall be in strict conformity with the requirements of the Subletting and Subcontracting Fair Practices Act, Part 1 of Division 2 of the Public Contract Code, commencing with Section 4100.
- 4.4.6 In the event that the Contractor furnishes a material, product, process, or article better than that specified in the Contract Documents, the difference in cost of that material, product, process, or article shall be borne by the Contractor.
- 4.4.7 Prior to the Notice to Proceed, Contractor shall submit a list of all subcontractors and material suppliers including company name, address, business and emergency telephone numbers, and contact person.

4.5 **WARRANTY**

- 4.5.1 The Contractor warrants to the County that all materials and equipment furnished under this Contract will be new unless otherwise specified and that all Work will be of good quality, free from faults and defects and in conformance with the Contract Documents. The Contractor warrants to the County that to the best of the Contractor's knowledge, no installed materials or equipment contain asbestos. All Work not conforming to these requirements, including substitutions not properly approved and authorized, may be considered defective. If required by the Construction Manager, the Contractor shall furnish satisfactory evidence as to the kind and quality of materials and equipment. This warranty is not limited by the provisions of Paragraph 13.2. Contractor shall guarantee all work required under the Agreement against faulty materials or poor workmanship during the construction period and for **1 year** after the date of completion and acceptance of the Work.

4.6 **TAXES**

- 4.6.1 The Contractor shall pay all sales, consumer, use and other similar taxes for the Work or portions thereof provided by the Contractor which are legally enacted at the time bids are opened, whether or not yet effective.

4.7 **PERMITS, FEES AND NOTICES**

- 4.7.1 Unless otherwise provided in the Contract Documents, the County shall secure and pay for the building permit and permanent utility connection fees. The Contractor shall secure and pay for temporary construction utilities, and all other permits and governmental fees, licenses and inspections necessary for the proper execution and completion of the Work which are customarily secured after execution of the Contract and which are legally required at the time

bids are opened.

- 4.7.2 The Contractor shall give all notices and comply with all laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the performance of the Work.
- 4.7.3 If the Contractor observes that any of the Contract Documents are at variance therewith in any respect, the Contractor shall promptly notify the County in writing, and any necessary changes shall be accomplished by appropriate modification.
- 4.7.4 If the Contractor performs any Work contrary to any laws, ordinances, rules and regulations, without notice to the Construction Manager, the Contractor shall assume full responsibility therefore and shall bear all costs attributable thereto.
- 4.7.5 Any reference in the Project Manual text to codes, standard specifications or manufacturer's instructions shall mean the latest printed edition of each in effect at the Contract date.

4.8 **ALLOWANCES**

- 4.8.1 The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents. Items covered by these allowances shall be supplied for such amounts and by such persons as the Construction Manager may direct, but the Contractor will not be required to employ persons against whom the Contractor makes a reasonable objection.
- 4.8.2 Unless otherwise provided in the Contract Documents:
 - .1 These allowances shall cover the cost to the Contractor, less any applicable trade discount, of the materials and equipment required by the allowance, delivered at the site, and all applicable taxes;
 - .2 The Contractor's costs for unloading and handling on the site, labor, installation costs, overhead, profit and other expenses contemplated for the original allowance shall be included in the Contract Sum and not in the allowance; and
 - .3 Whenever the cost is more or less than the allowance, the Contract Sum shall be adjusted accordingly by Change Order, the amount of which will recognize changes, if any, in handling costs on the site, labor, installation costs, overhead, profit and other expenses.

4.9 **SUPERINTENDENT**

- 4.9.1 The Contractor shall employ a competent superintendent and necessary assistants who shall be in attendance at the Project site during the progress of the Work. The Contractor shall provide résumés for all of the Contractor's supervisory employees to be assigned to the Project for County review, and the County may reject any supervisory employees not deemed to be qualified at the sole discretion of the County. The superintendent shall represent the Contractor and all communications given to the superintendent shall be as binding as if given to the Contractor. Important communications shall be confirmed in writing. Other communications shall be so confirmed upon written request in each case.
- 4.9.2 The Superintendent who begins the Project shall remain on the Project until the Project is completed, as long as that person is employed by the Contractor. The Superintendent shall not be replaced without the approval of the County.

If Contractor fails to provide a qualified full-time superintendent on the site on any given day when Work is being performed, then Contractor shall pay to County, as liquidated damages and

not as a penalty, the sum of \$500.00 per day for each such day. County and Contractor agree that County's damages for such failure would be extremely difficult or impracticable to determine and that the aforesaid amounts are reasonable estimates of and reasonable sums for such damages. County may deduct any liquidated damages due from Contractor from any amounts otherwise due to Contractor under the Contract Documents. This provision shall not limit any right or remedy of County in the event of any other default of Contractor.

4.10 CONTRACTOR'S CONSTRUCTION SCHEDULE

4.10.1 Contract Schedule Development

Within 10 days after receiving the Notice to Proceed, the Contractor shall submit a detailed proposed Contract Schedule presenting an orderly and realistic plan for completion of the Work, in conformance with the requirements of this specification.

The Contract Schedule shall furnish or comply with the following requirements:

- A. Format: a time scaled CPM schedule.
- B. Overall time of completion and time of completion for each milestone shown on the Contract Schedule shall adhere to the times in the Project Manual, if applicable.
- C. Calendar Schedule: Calendar days are the basis of the schedule.
- D. No activity on the schedule shall have duration longer than seven (7) days, with the exception of fabrication and procurement activities, unless otherwise approved by the Construction Manager. Activity durations shall be the total number of actual days required to perform that activity including consideration of weather impact on completion of that activity.
- E. Procurement of major equipment, through receipt and inspection at the job site, identified as a separate activity.
- F. County furnished materials and equipment if any, identified as separate activities.
- G. Dependencies (or relationships) between activities shown.
- H. Processing/approval of submittals and shop drawings for major equipment shown. Activities that are dependent on submittal acceptance and/or material delivery shall not be scheduled to start earlier than the expected acceptance or delivery dates.
- I. The total cost of performing each activity shown. This cost shall be the total of labor, material, equipment, including overhead and profit. The sum of the cost for activities shall equal the total contract value.
- J. The resources required (manpower and major equipment) to perform each activity shown.
- K. Ten (10) days for developing punch list(s), completion of punch list items, and final clean up for the Work or any designated portion thereof.
- L. Interface with the work of other Contractors (or entities).

- M. Separate buildings and other independent project elements shall be individually identified in the network.

Along with the schedule, Contractor shall provide a procurement log including the following information for each type of material or equipment to be provided:

- N. Material or equipment description.
- O. Technical specification reference.
- P. Duration in days required for preparation and review of submittals.
- Q. Duration in days required for fabrication and delivery.
- R. Cross references to activities, which will be affected by the delivery date of the material or equipment item.
- S. Scheduled delivery dates.

The Contractor shall submit the reports and number of copies as required under Division One of this specification.

The Construction Manager will review the Proposed Contract Schedule for conformance with the requirements of the Contract. Within three (3) days after receipt, the Construction Manager will accept the Contract Schedule or will return it with comments. If the Proposed Contract Schedule is not accepted, Contractor shall revise the schedule to incorporate comments and resubmit the schedule for acceptance within three (3) days after receiving the comments.

The accepted Contract Schedule shall be the basis for evaluating job progress, payment requests, and time extension requests. The responsibility for developing the Contract Schedule and monitoring actual progress as compared to the schedule rests with the Contractor.

Failure of the Contract Schedule to include any element of the Work or any inaccuracy in the Contract Schedule will not relieve Contractor from responsibility for accomplishing all the work in accordance with the Contract.

Acceptance of the Contract Schedule will not relieve the Contractor of the responsibility for accomplishing the work in accordance with the Contract.

Monthly Updates

Contractor shall submit to the Construction Manager each month an up-to date status report of the work. The status report shall include:

- A. Contractor's estimated percentage complete for each activity not yet complete.
- B. Actual start/finish dates for activities as appropriate.
- C. Identification of processing errors, if any, on the previous update reports.
- D. Revisions, if any, to the assumed activity durations including revisions for weather impact for any activities due to the effect of the previous update on the schedule.
- E. Identification of activities that are affected by Proposed Change Orders issued during the update period.

- F. Resolution of conflict between actual work progress and work schedule. When out-of-sequence activities develop in the Contract Schedule because of actual construction progress, the Contractor shall submit revisions to the schedule to conform to current status and direction.

The Construction Manager will review the updated information and meet with the Contractor each month at the site to determine the status of the Work. If agreement cannot be reached on any issue, the Contractor will use the Construction Manager's determination in the processing of the update.

Progress payments pursuant to the Contract will be based on the update of the Contract Schedule.

Short Interval Schedules.

Contractor shall prepare a Short Interval Schedule (SIS) to be used throughout the duration of Work. The SIS shall include all current activities and projected activities for the succeeding one (1) week. The SIS shall include actual start/finish dates for the preceding one (1) week. The SIS shall be submitted to the Construction Manager prior to the weekly construction meeting. The Contractor shall participate in short interval scheduling coordination during the weekly construction meetings.

Responsibility for Completion.

The Contractor shall furnish sufficient manpower, materials, facilities and equipment and shall work sufficient hours, including night shifts, overtime operations, Sundays and holidays as may be necessary to insure the prosecution and completion of the Work in accordance with the accepted Construction Schedule. If work on the critical path is seven days or more behind the currently updated Construction Schedule and it becomes apparent that the Work will not be completed within the Contract Time, the Contractor will implement whatever steps it deems necessary to make up all lost time. If the Contractor's solution is not successful, it will make further attempts using the following sequence of events:

- A. Reschedule activities to achieve maximum practical concurrence of accomplishment of activities.
- B. If the above cannot be achieved then;
 1. The Contractor shall increase manpower in such quantities and crafts as will substantially eliminate, in the judgment of the Construction Manager, the backlog of work; or increase the number of working hours, shifts per working day, working days per week or the amount of equipment or any combination of the foregoing sufficiently to substantially eliminate in the judgment of the Construction Manager the backlog of work.
 2. In addition, the Construction Manager may require the Contractor to submit a recovery schedule demonstrating its program and proposed plan to make up a lag in scheduled progress and to ensure completion of the Work within the Contract Time. If the Construction Manager finds the proposed recovery schedule unacceptable, it may require the Contractor to submit a new plan. If the actions taken by the Contractor or the second plan proposed are unsatisfactory, the Construction Manager may require the Contractor to take any of the actions set forth in the previous paragraph without additional cost to the County to make up the lag in scheduled progress.

Failure of the Contractor to comply with the requirements of "Short Interval Schedules" shall be considered grounds for a determination by the County, pursuant to Article 14, that the

Contractor is failing to prosecute the Work with such diligence as will ensure its completion within the time specified.

Daily Reports

Contractor shall submit a Daily Activity Report to the Construction Manager for each workday including weekends and holidays, when worked.

Contractor may use its own report, provided it contains the same information included in the standard form furnished by the Construction Manager.

4.11 **RECORDS, DOCUMENTS AND SAMPLES AT THE SITE**

4.11.1 The Contractor shall maintain all records of required City, County or State inspections and shall promptly notify the Construction Manager of the results of any inspection. Copies of all such records shall be provided to the County upon request.

4.11.2 The Contractor shall secure and maintain required certificates of inspection, testing or approval and shall promptly deliver them to the Construction Manager.

4.11.3 The Contractor shall maintain a master set of drawings and specifications at the site which shall be regularly updated to reflect current as-built conditions of the Work. The Contractor shall update the drawings as work progresses. The information to be recorded by the Contractor will be determined by the Architect, who will be responsible for preparing the final, reproducible as-built drawings based upon the information submitted by the Contractor. At a minimum, the following information shall be inserted and dimensioned on those drawings and specifications, in RED, by the Contractor: the exact horizontal and vertical location of all installations in their finished condition, including all electrical, plumbing and mechanical installations; all changes in construction, materials and installed equipment; adequate dimensional data, both horizontal and vertical, to allow location of covered installations and the identification of changes authorized by Change Order. The updated drawings and specifications shall be available for review by the Construction Manager and the Inspector.

4.12 **SHOP DRAWINGS, PRODUCT DATA AND SAMPLES**

4.12.1 Shop Drawings are drawings, diagrams, schedules and other data specially prepared for the Work by the Contractor or any Subcontractor, manufacturer, supplier or distributor to illustrate some portion of the Work.

4.12.2 Product Data are illustrations, standard schedules, performance charts, instructions, brochures, diagrams and other information furnished by the Contractor to illustrate a material, product or system for some portion of the Work.

4.12.3 Samples are physical examples, which illustrate materials, equipment or workmanship, and establish standards by which the work will be judged.

4.12.4 The Contractor, at its sole cost and expense, shall furnish to the Construction Manager all drawings and other descriptive material as are required by the specifications or requested by the Architect. Shop drawings shall be done with sufficient detail to adequately describe items proposed to be furnished or methods of installation to enable the County and Architect to determine compliance with the specifications and with the design and arrangement shown on the working drawings. The Construction Manager will not accept shop drawings or manufacturers' instructions which are not sufficiently dimensioned and detailed to demonstrate compliance with the Contract Documents.

The Contractor shall check and coordinate all submittals with the work of all trades involved before they are submitted.

All submittals for the Project shall be made within fifteen (15) days of the Notice of Award; however, the Contractor shall have the additional responsibility to coordinate the schedule of its submittals with the requirements of the Construction Schedule so as not to delay the Project. No delay claims related to submittals will be entertained on the Project for any submittal originally received after the 15 day submittal period.

All submissions must be marked with the name of the Project and the name of the Contractor and shall be numbered consecutively and complete in every respect.

The drawings and instructions shall be submitted promptly, so as to cause no delay in the work. The drawings and instructions shall be submitted so as to allow the Construction Manager and the Architect a review period of no less than five (5) days.

- 4.12.5 By preparing, approving and submitting Shop Drawings, Product Data and Samples, the Contractor represents that the Contractor has determined and verified all materials, field measurements and field construction criteria related thereto, or will do so with reasonable promptness, and has checked and coordinated the information contained within such submittals with the requirements of the Work, the Project and the Contract Documents. The Contractor shall adhere to any supplementary processing and scheduling instructions pertaining to shop drawings as may be issued by the Construction Manager.
- 4.12.6 The Contractor shall not be relieved from responsibility to fulfill the Contract at no extra cost to the County, within the Contract Time, by the Architect's approval of Shop Drawings, Product Data or Samples. The Contractor shall not be relieved of responsibility for any deviation from the requirements of the Contract Documents by the Construction Manager's approval of Shop Drawings, Product Data or Samples under Subparagraph 2.2.14, unless the Contractor has specifically informed the Construction Manager in writing of such deviation at the time of submission and the Architect has given written approval to the specific deviation. The Contractor shall not be relieved from responsibility for errors or omissions in the Shop Drawings, Product Data or Samples by the Architect's approval of them.
- 4.12.7 When professional certification of performance criteria of materials, systems or equipment is required by the Contract Documents, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.
- 4.12.8 The Contractor shall direct specific attention, in writing or on resubmitted Shop drawings, Product Data, or Samples, to revisions other than those requested by the Architect on previous submittals. It shall be the responsibility of the Contractor to specifically point out any variation or discrepancy between the shop drawings or manufacturers' instructions submitted and the Contract Documents.

The Contractor shall make specific mention of all variations, along with an explanation of why they are requested, in its letter of transmittal.

FAILURE BY THE CONTRACTOR TO IDENTIFY IN ITS LETTER OF TRANSMITTAL ANY VARIATION, DISCREPANCY, OR CONFLICT WITH THE CONTRACT DOCUMENTS SHALL RENDER THE APPROVAL NULL AND VOID, AND THE CONTRACTOR SHALL BEAR ALL RISK OF LOSS AND RECONSTRUCTION COSTS OR DELAYS.

If any architectural, plumbing, mechanical, electrical, or structural modifications are required as a

result of the approval of shop drawings or manufacturers' instructions which deviate from or do not comply with the Contract Documents, those modifications shall be made without extra cost to the County, and without extension of the Contract Time. Any other resultant costs, including but not limited to design fees, Construction Management fees, cost incurred by other contractors, or inspection fees, shall be at the expense of the Contractor.

- 4.12.9 No portion of the work requiring submission of a Shop Drawing, Product Data or Sample shall be commenced until the submittal has been approved by the Architect as provided in Subparagraph 2.2.14. All such portions of the Work shall be in accordance with approved submittals.
- 4.12.10 Submission of Shop Drawings and Samples to the Construction Manager is required for only those items specifically mentioned in the Specification Sections. If Contractor submits Shop Drawings for items other than the above, the Construction Manager will not be obligated to distribute or review them. Contractor shall be responsible for the procuring of Shop Drawings for its own use as it may require for the progress of the Work.
- 4.12.11 The term "Shop Drawings" as used herein also includes, but is not limited to fabrication, erection, layout and setting drawings, manufacturer's standard drawings, descriptive literature, catalogs, brochures, performance and test data, wiring and control diagrams, all other drawings and descriptive data pertaining to materials, equipment, piping, duct and conduit systems, and methods of construction as may be required to show that the materials, equipment or systems and the positions and layout of each conform to the Contract requirements. As used herein the term "manufactured" applies to standard units usually mass-produced and "fabricated" means items specifically assembled or made out of selected materials to meet individual design requirements. Shop Drawings shall establish the actual detail of all manufactured or fabricated items; indicate proper relation to adjoining Work; amplify design details of mechanical and electrical equipment in proper relation to physical spaces in the structure; and incorporate minor changes of design or construction to suit actual conditions.

Review of Shop Drawings.

Following submission, the shop drawings will be returned with one or more of five possible responses by the Construction Manager or Architect. These possible responses are as follows:

- A. Unreviewed: If the submittal is not required, or if it is not complete, or if it does not meet the form, format, and number requirements specified, it may be returned unreviewed. If the submittal is not required, work may commence; if the submittal was returned due to form requirements, it shall be resubmitted and approval obtained prior to commencement of the work.
- B. Approved, Reviewed, or No exceptions taken: In the event the submittal is acceptable as submitted, it will be returned with this status. Work may proceed upon receipt of approved submittal.
- C. Make Corrections Noted: If the submittal is acceptable except for certain items which have been noted by the Architect, it will be so designated. Work may proceed with the corrections made, and no resubmittal is necessary.
- D. Revise and Resubmit: This status indicates that revisions are noted on the submittal, and an additional submittal is required to reflect those revisions and/or additional information. Work may not commence until the resubmittal is approved.
- E. Rejected: A submittal may be rejected if it is not in compliance with the Contract Documents, or if it proposes an "or equal" or substitution which is not acceptable to the

Architect. A superseding submittal shall be submitted and approved prior to commencement of the work.

Should the Contractor proceed with the work shown on a submittal before approval is received, it shall remove and replace or adjust any work which is not in accordance with the shop drawings or manufacturers' instructions as ultimately approved, and it shall be responsible for any resultant damage, defect, or added cost. The County shall be under no obligation to pay for work installed prior to approval of shop drawings, until the shop drawings are approved and the work in place is found to be in compliance with the Contract Documents.

The Contractor shall resubmit submittals in categories "D" and "E" above after making any changes required so that submittals will comply with the Contract Documents. When resubmitting, the Contractor shall direct specific attention to deficient areas. Resubmittals shall be made in the same number of copies as the original submittal. Resubmittals shall be made within five (5) days of return of previous submittal, and in any event in sufficient time so as to avoid delay to the Work. No delay claims related to resubmittals will be entertained on the Project for any resubmittal originally received after the 5 days.

The Architect shall determine the adequacy and completeness of all submittals. Where the Architect deems a submittal to be inadequate, incomplete, or otherwise unsuitable for proper review, the Contractor shall submit all additional information requested by the Architect. There shall be no change to the Contract Time or the Contract Sum when such additional information is required.

- 4.12.12 Drawings: Following Contractor's review and approval, Contractor shall submit to the Construction Manager five (5) copies of each drawing for approval. The Construction Manager will check the submittal to see if it is complete. If complete, the Construction Manager will forward the drawings to the Architect. The Architect will check the drawings and affix a stamp to the prints, indicating the status of acceptance, and will return same to the Contractor, each retaining prints for its records. Comments, if any, will be noted directly on the prints. The Contractor shall then print and distribute the appropriate number of copies to its job personnel as required. If a print is stamped "Rejected", the Contractor shall correct and resubmit as outlined above.
- 4.12.13 Samples: Following Contractor's review and approval, it shall submit to the Construction Manager, two samples of all materials in quantities and sizes as specified herein. Submittals shall be given to the Construction Manager at a time determined by the Contractor, which allows for any necessary resubmittal and which will not cause any delay in the work. Samples will be forwarded to the Architect. If a sample is rejected, one sample noted so will be returned to the Contractor. If a sample is marked "Note Markings", one sample so noted will be returned. Corrected samples shall be resubmitted for approval as per the original submittal.
- 4.12.14 Brochures: Following Contractor's review and approval, it shall submit to the Construction Manager, six (6) copies of all manufacturer's catalogs or brochures as required. If a brochure is stamped "No Exception Taken", two (2) copies will be returned to the Contractor. If stamped "Rejected", one marked copy and two (2) unmarked copies will be returned. Corrected copies shall be resubmitted for approval as per the original submittal.
- 4.12.15 Manufacturer's Instructions: Where any item of work is required by Project Manual to be furnished, installed or performed in accordance with a specified product manufacturer's instructions, Contractor shall procure and distribute the necessary copies of such instructions to all concerned parties.
- 4.12.16 When professional certification of performance criteria of materials, systems or equipment is

required by the Contract Documents, and the Architect has no information creating doubt as to the reliability of such certification, the Architect shall be entitled to rely upon the accuracy and completeness of such calculations and certifications.

4.13 **USE OF SITE**

4.13.1 The Contractor shall confine operations at the site to areas permitted by law, ordinances, permits and the Contract Documents, and shall not unreasonably encumber the site with any materials or equipment. The Contractor shall be liable for any and all damage caused by it to County's premises. The Contractor shall hold and save the County, its agents, representatives, Architect and Construction Manager, free and harmless and defend them from liability of any nature or kind arising from any use, trespass, or damage occasioned by its operations on premises or third persons.

4.13.2 The Contractor shall coordinate all of the Contractor's operations with, and secure approval from, the Construction Manager before using any portion of the site.

4.13.3 All workers, contractors, or contractors' representatives are admitted to the Site only for the proper execution of the Work, and have no tenancy.

4.13.4 The site will remain open to the public during construction of this project. Areas of the site may be closed where the Contractor is working at a given time. Permission to close an area of the site must be obtained from the Construction Manager in advance of the proposed closure. Contractor is responsible for all warning devices and barriers required to protect the health and welfare of the public at all times.

4.14 **CUTTING AND PATCHING OF WORK**

4.14.1 The Contractor shall be responsible for all cutting, fitting or patching that may be required to complete the Work or to make its several parts fit together properly.

4.14.2 The Contractor shall not damage or endanger any portion of the Work or the work of the County or any separate contractors by cutting, patching or otherwise altering any work, or by excavation. The Contractor shall not cut or otherwise alter the work of the County or any separate contractor except with the written consent of the County and of such separate contractor. The Contractor shall not unreasonably withhold from the County or any separate contractor consent to cutting or otherwise altering the Work.

4.14.3 In all cases, the Contractor exercise extreme care in cutting operations, and perform such operations under adequate supervision by competent mechanics skilled in the applicable trade. Openings shall be neatly cut and shall be kept as small as possible to avoid unnecessary damage. Careless and/or avoidable cutting damage, etc., will not be tolerated, and the Contractor will be held responsible for such avoidable or willful damage.

4.14.4 All replacing, patching and repairing of all materials and surfaces cut or damaged in the execution of the Work shall be performed by experienced mechanics of the several trades involved. Such replacing, repairing or patching shall be done with the applicable materials, in such a manner that all surfaces so replaced, etc., will, upon completion of the Work, match the surrounding similar surfaces.

4.15 **CLEANING UP**

4.15.1.1 The Contractor shall at all times maintain its work area in an orderly manner. The Contractor shall keep the premises, including the Site, the Project, the adjacent sidewalks and street free from

accumulation of waste materials or rubbish caused by the Contractor's operations on a daily basis or as directed by the Construction Manager. At the completion of the Work, the Contractor shall remove all of the Contractor's waste materials and rubbish from and about the Project as well as all the Contractor's tools, construction equipment, machinery and surplus materials.

The Contractor shall clean the portions of existing improvements and facilities which are used by, traversed or dirtied by the workers on the Work (normal maintenance due to use by the County's employees or the public excepted.)

The Contractor, at its sole cost, shall contract with a disposal company to remove all rubbish, and shall have the refuse containers emptied at frequent enough intervals so that waste does not overflow the containers.

4.15.2 If the Contractor fails to clean up during progress or at the completion of the Work, the County may do so as provided in Paragraph 3.4 and the cost thereof shall be paid by the Contractor.

4.15.3 Final Cleaning of Project.

Prior to final acceptance and occupancy by the County, the Contractor shall thoroughly clean the interior and exterior of the buildings, and the Site and adjacent areas, of all material related to its performance of the Work, including spots, stains, paint spots, trade markings and labels, and accumulated dust and dirt. The following list is not inclusive but to act as a guideline to include:

- .1 Removal of all paint spots, stains, rubbish, debris, tools and equipment from all areas and broom clean. Steam clean all carpets and mop floors.
- .2 Cleaning interior and exterior of the buildings including all windows in any area affected by the Work.
- .3 Brush off, broom sweep, dust and clean ledges, stairs, doors, hardware, chalk board trays and any adjoining rooms or areas that were affected by the work.
- .4 The Contractor shall clear grounds and exterior paved areas and walks of all construction debris, dirt and dust and shall repair any site areas damaged during the course of construction.

Prior to final completion or County occupancy, the Contractor shall conduct an inspection of sight-exposed surfaces, and all work areas, to verify that the entire work is clean. In the event the Contractor fails to do so, the County may cause this work to be done at the Contractor's expense in accordance with subparagraph 3.4.1.

4.16 **ROYALTIES AND PATENTS**

4.16.1 The Contractor shall pay all royalties and license fees, shall defend all suits or claims for infringement of any patent rights and shall defend and save the County harmless from loss on account thereof, except that the County shall be responsible for all such loss when a particular design, process or the product of a particular manufacturer or manufacturers is selected by the Architect. If the Contractor has reason to believe that the design, process or product selected is an infringement of a patent, the Contractor shall be responsible for such loss unless such information is promptly given to the County, Architect and Construction Manager in writing.

4.17 **INDEMNIFICATION AND DEFENSE**

4.17.1 To the fullest extent permitted by law, Contractor must indemnify, defend (at Contractor's sole cost and expense and with legal counsel approved by County, which approval may not be

unreasonably withheld), protect and hold harmless County, Construction Manager, Project Architect, Inspector, all subsidiaries, divisions and affiliated companies of County, and all of that Parties' representatives, partners, designees, officers, directors, shareholders, employees, consultants, agents, successors and assigns, and any lender of County with an interest in the Project (collectively, the "Indemnified Parties"), from and against all claims (including, without limitation, claims for bodily injury, death or damage to property), demands, obligations, damages, actions, causes of action, suits, losses, judgments, fines, penalties, liabilities, costs and expenses (including, without limitation, attorneys' fees, disbursements and court costs, and all other professional expert or consultants' fees and costs and County's general and administrative expenses) of every kind and nature whatsoever (individually, a "Claim"; collectively, "Claims") which may arise from or in any manner relate (directly or indirectly) to any work performed or services provided under the Contract (including, without limitation, defects in workmanship or materials and/ or design defects or Contractor's presence or activities conducted under the Contract (including, without limitation, the negligent and/ or willful acts, errors and/or omissions of Contractor, its principals, officers, agents, employees, vendors, suppliers, consultants, sub-consultants, subcontractors, anyone employed directly or indirectly by any of them or for whose acts they may be liable or any or all of them). The Contractor's obligation to indemnify applies unless it is finally adjudicated that the liability was caused by the sole active negligence or sole willful misconduct of an Indemnified Party. If it is finally adjudicated that liability is caused by the comparative active negligence or willful misconduct of an Indemnified Party, then Contractor's indemnification obligation shall be reduced in proportion to the established comparative liability.

The duty to defend is a separate and distinct obligation from Contractor's duty to indemnify. Contractor shall be obligated to defend, in all legal, equitable, administrative, or special proceedings, the Indemnified Parties immediately upon tender to Contractor of the Claim in any form or at any stage of an action or proceeding, whether or not liability is established. Payment to Contractor by any Indemnified Party or the payment or advance of defense costs by any Indemnified Party cannot be a condition precedent to enforcing the Indemnified Party's rights to indemnification under the Contract. An allegation or determination that persons other than Contractor are responsible for the Claim does not relieve Contractor from its separate and distinct obligation to defend under this section. The obligation to defend extends through final judgment, including exhaustion of any appeals. The defense obligation includes an obligation to provide independent defense counsel if Contractor asserts that liability is caused in whole or in part by the negligence or willful misconduct of an Indemnified Party. If it is finally adjudicated that liability was caused by the comparative active negligence or willful misconduct of an Indemnified Party, then Contractor may submit a claim to the County for reimbursement of reasonable attorneys' fees and defense costs in proportion to the established comparative liability of the Indemnified Party. Contractor's indemnification obligations under the Contract will survive the expiration or earlier termination of this Contract until action against the Indemnified Parties for the matter indemnified is fully and finally barred by the applicable statute of limitations or statute of repose. Contractor's liability for indemnification under the Contract is in addition to any liability Contractor may have to County for a breach by Contractor of any of the provisions of the Contract. Under no circumstances may the insurance requirements and limits set forth in the Contract be construed to limit Contractor's indemnification obligation or other liability under the Contract. The terms of the Contract are contractual and the result of negotiation between the Parties.

Contractor must indemnify and hold County harmless from all loss and liability, including attorneys' fees, court costs and all other litigation expenses, for any infringement of the patent rights, copyright, trade secret or any other proprietary right or trademark, and all other intellectual property claims of any person or persons in consequence of the use by County, or

any of its officers or agents, of articles or services to be supplied in the performance of the Contract.

- 4.17.2 In any and all claims against the County, the Construction Manager and Architect or any of their agents or employees by any employee of the Contractor, any Subcontractor, anyone directly or indirectly employed by any of them or anyone for whose acts any of them may be liable, the indemnification obligation under this Paragraph 4.17 shall not be limited in any way by any limitation on the amount or type of damages, compensation or benefits payable by or for the Contractor or any Subcontractor under workers' or workmen's compensation acts, disability benefit acts or other employee benefit acts.
- 4.17.3 The obligations of the Contractor under this Paragraph 4.17 shall not extend to the liability of the Architect or Construction Manager, their agents or employees, arising out of (1) the preparation or approval of maps, drawings, opinions, reports, surveys, Change Orders, designs or specifications, or (2) the giving of or the failure to give directions or instructions by the Architect, their agents or employees, provided such giving or failure to give directions is the primary cause of the injury or damage.

The indemnity obligation expressly extends to and includes any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of damages to adjacent property caused by the conduct of the Work.

The indemnity obligation expressly extends to and includes any and all claims, demands, damages, costs, expenses, or liability occasioned as a result of the violation by the Contractor, the Contractor's agents, employees, or independent contractors or subcontractors, of any provisions of federal, state or local law, including applicable administrative regulations.

The indemnity obligation also expressly extends to and includes any claims, demands, damages, costs, expenses, or liability occasioned by injury to or death of any person, or any property damage to property owned by any person while on or about the Site or as a result of the Work, whether such persons are on or about the Site by right or not, whenever the Work is alleged to have been a contributing cause in any degree whatsoever.

Nothing contained in the foregoing indemnity provisions shall be construed to require the Contractor to indemnify the County in contravention of Section 2782 of the Civil Code for the sole negligence or willful misconduct of the County.

Indemnification of Adjacent Property Owners.

In the event the Contractor enters any agreement with the owners of any adjacent property to enter upon or adjacent to such property for the purpose of performing this Contract, the Contractor shall fully indemnify, defend and save harmless such person, firm, or corporation, state or other governmental agency which owns or has any interest in the adjacent property. The form and content of the indemnification agreement shall be approved by the County prior to commencement of any work on or about such property. The Contractor also shall indemnify the County as provided in this Article 4. These provisions shall be in addition to any other requirements of the owners of adjacent property.

4.18 **FAIR EMPLOYMENT PRACTICES CLAUSE**

- 4.18.1 Nondiscrimination: In connection with the performance of Work under the Contract, the Contractor agrees (as prescribed in Chapter 6 of Division 3 of Title II of the Government Code of the State of California, Commencing at Section 12900 and by Labor Code Section 1735) not to discriminate against any employee or applicant for employment because of race, religious creed, color, national origin, ancestry, physical disability, mental disability, medical condition,

marital status or sex. The aforesaid provisions shall include, but not be limited to, the following: employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship. The Contractor agrees to post hereafter in conspicuous places, available for employees and applicants for employment, Notices to be provided by the County, setting forth the provisions of this discrimination clause. The Contractor further agrees to insert the foregoing provisions in all subcontracts hereunder, except subcontracts for standard commercial supplies of raw materials.

ARTICLE 5 **SUBCONTRACTORS**

5.1 DEFINITION

- 5.1.1 A Subcontractor is a person or entity who has a direct contract with the Contractor to perform any of the Work at the site. The term Subcontractor means a Subcontractor or a Subcontractor's authorized representative. The term Subcontractor does not include any separate contractor or any separate contractor's subcontractors.
- 5.1.2 A Sub-subcontractor is a person or entity who has a direct or indirect contract with a Subcontractor to perform any of the work at the site. The term Sub-subcontractor means a Sub-sub contractor or an authorized representative thereof.

5.2 AWARDS OF SUBCONTRACTS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

- 5.2.1 The Contractor shall only use subcontractors included in its sealed bid unless first approved by the County pursuant to statute. With respect to subcontractors ineligible to perform work on public works projects under Public Contract Code section 6109, the Contractor shall not use any such subcontractor, shall repay to the County any money paid to any such subcontractor, and shall pay the wages of the workers for any such subcontractor allowed to work on the Project.

5.3 SUBCONTRACTUAL RELATIONS

- 5.3.1 By an appropriate agreement, written where legally required for enforceability, the Contractor shall require each Subcontractor, to the extent of the work to be performed by the Subcontractor, to be bound to the Contractor by the terms of the Contract Documents, and to assume toward the Contractor all the obligations and responsibilities which the Contractor, by these Documents, assumes toward the County, the Architect and the Construction Manager. Said agreement shall preserve and protect the rights of the County, the Architect and the Construction Manager under the Contract Documents with respect to the work to be performed by the Subcontractor so that the subcontracting thereof will not prejudice such rights, and shall allow to the Subcontractor, unless specifically provided otherwise in the Contractor-Subcontractor Agreement, the benefit of all rights, remedies and redress against the Contractor that the Contractor, by these Documents, has against the County. Where appropriate, the Contractor shall require each Subcontractor to enter into similar agreements with their Sub-subcontractors. The Contractor shall make available to each proposed Subcontractor, prior to the execution of the Subcontract, copies of the Contract Documents to which the Subcontractor will be bound by this Paragraph 5.3, and identify to the Subcontractor any terms and conditions of the proposed Subcontract which may be at variance with the Contract Documents. Each Subcontractor shall similarly make copies of such Documents available to their Sub-subcontractors. Nothing contained herein shall be deemed to create an agency relationship between the County and any Subcontractor or material supplier.
- 5.3.2 The substitution or addition of Subcontractors shall be permitted only as authorized by Public

Contracts Code Section 4100, et. seq. The Subcontractors employed by the Contractor shall be appropriately licensed in conformity with the laws of the State of California. Should the Contractor violate any of the provisions of this Section, the violation shall be deemed a breach of this Contract and the County shall have all remedies provided by California law, including but not limited to those provided in Public Contract Code Section 4100, allowing termination of the Contract or a penalty assessment of ten percent (10%) of the subcontract amount.

- 5.3.3 Nothing contained in this Contract shall create any contractual relationship between any Subcontractor and the County nor create any contractual relationship between any Subcontractor and the Construction Manager or the Architect.
- 5.3.4 Jurisdictional disputes between Subcontractors or between Contractor and Subcontractor shall not be mediated or decided by the County, Architect or the Construction Manager. The Contractor shall be responsible for the resolution of all such disputes based upon its contractual relationship with its Subcontractors. If, through acts or neglect on the part of the Contractor, including failure to supervise and control its subcontractors or suppliers, any other contractor, subcontractor or supplier, or worker suffers loss or damage, the Contractor agrees to settle with such other contractor, subcontractor, supplier, or worker by agreement or arbitration, if such other contractor, subcontractor, or worker shall assert any claim against the County or any of its officers, agents, or employees, or account of any damage alleged to have been so sustained. In the event of the receipt of any such claim, the County shall notify the Contractor, who shall defend, indemnify, and save harmless the County and all of its officers, agents, and employees against any such claim.

ARTICLE 6
WORK BY COUNTY OR BY
SEPARATE CONTRACTORS

- 6.1 **COUNTY'S RIGHT TO PERFORM WORK AND TO AWARD SEPARATE CONTRACTS**
 - 6.1.1 The County reserves the right to perform work related to the Project with the County's own forces, and to award separate contracts in connection with other portions of the Project or other work on the site under these or similar Conditions of the Contract. If the Contractor claims that delay, damage or additional cost is involved because of such action by the County, the Contractor shall make such claim as provided elsewhere in the Contract Documents.
 - 6.1.2 When separate contracts are awarded for different portions of the Project or other work on the site, the term Contractor in the Contract Documents in each case shall mean the Contractor who executes each separate County-Contractor Agreement.
 - 6.1.3 The County shall provide for coordination of the activities of the County's own forces and of each separate contractor with the Work of the Contractor, who shall cooperate with them. The Contractor shall participate with other separate contractors and the County in reviewing their construction schedules when directed to do so. The Contractor shall make any revisions to the construction schedule deemed necessary after a joint review and mutual agreement. The construction schedules shall then constitute the schedules to be used by the Contractor, separate contractors and the County until subsequently revised.
 - 6.1.4 Unless otherwise provided in the Contract Documents, when the County performs construction or operations related to the Project with the County's own forces, the County shall be deemed to be subject to the same obligations and to have the same rights which apply to the Contractor under the Conditions of the Contract including, without excluding others, those stated in Article 4, this Article 6 and Articles 10, and 13.

6.2 MUTUAL RESPONSIBILITY

- 6.2.1 The Contractor shall afford the County and separate contractors reasonable opportunity for introduction and storage of their materials and equipment and performance of their activities and shall connect and coordinate the Contractor's construction and operations with theirs as required by the Contract Documents.
- 6.2.2 When any part of the Contractor's Work depends for proper execution or results upon the work of the County or any separate contractor, the Contractor shall, prior to proceeding with the Work, promptly report to the Construction Manager any apparent discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor so to report shall constitute an acceptance of the County's or separate contractor's work as fit and proper to receive the Work, except as to defects which may subsequently become apparent in such work by others.
- 6.2.3 If, following the reporting of any discrepancy or defect as required in Subparagraph 6.2.2, the Contractor suffers damage due to disruption or delay caused by the separate contractor, without fault by the County, the Contractor's remedy shall be limited to seeking recovery from the separate contractor.
- 6.2.4 Any costs caused by defective or ill-timed work shall be borne by the Contractor or Subcontractor responsible therefore.
- 6.2.5 Should the Contractor cause damage to the work or property of the County, or to other work or property on the site, the Contractor shall promptly remedy such damage as provided in Subparagraph 10.2.5.
- 6.2.6 Should the Contractor wrongfully delay or cause damage to the work or property of any separate contractor, the Contractor shall, upon due notice, promptly attempt to settle with such other contractor by agreement, or otherwise to resolve the dispute. If such separate contractor sues the County on account of any delay or damage alleged to have been caused by the Contractor, the County shall notify the Contractor who shall defend such proceedings, and if any judgment or award against the County arises there from, the Contractor shall pay or satisfy it and shall reimburse the County for all costs which the County has incurred.

6.3 COUNTY'S RIGHT TO CLEAN UP

- 6.3.1 If a dispute arises between the Contractor and separate contractors as to their responsibility for cleaning up as required by Paragraph 4.15, the County may clean up and the Contractor therefore shall pay the County such portions of the cost thereof as the Construction Manager shall determine to be just.

ARTICLE 7 MISCELLANEOUS PROVISIONS

7.1 GOVERNING LAW

- 7.1.1 The Contract shall be governed by the law of the State of California.

7.2 SUCCESSORS AND ASSIGNS

- 7.2.1 The County and the Contractor, respectively, bind themselves, their partners, successors, assigns and legal representatives to the other party hereto and to the partners, successors, assigns and

legal representatives of such other party with respect to all covenants, agreements and obligations contained in the Contract Documents. Neither party to the Contract shall assign the Contract or sublet it as a whole without the written consent of the other.

7.3 **WRITTEN NOTICE**

7.3.1 Except as may be otherwise required by law, any notice to be given shall be written and shall be either personally delivered, sent by facsimile transmission or sent by first class mail, postage prepaid and addressed as follows:

COUNTY:

Tulare County Capital Projects
2637 W. Burrel Ave., Ste. 200
Visalia, CA 93291
Phone: (559) 205-1100

CONTRACTOR

Phone: (559) _____
Fax: (559) _____

Notice personally delivered is effective when delivered. Notice sent by first class mail shall be deemed received on the fifth day after the date of mailing. Either party may change the above address by giving written notice pursuant to this paragraph.

7.4 **CLAIM REQUIREMENTS**

7.4.1 A Claim is a demand or assertion by one of the parties seeking, as a matter of right, adjustment or interpretation of Contract terms, payment of money, extension of time, arising out of or relating to the Contract or a request for equitable adjustment or Change Order which cannot be resolved per provisions of Article 12. **Any Claim shall be reduced to writing and filed with the Tulare County Administrative Officer (or his/her designee), within twenty (20) calendar days after the Contractor has notice of the condition giving rise to the Claim, and final action per Article 12 procedures has taken place or has been declared as such in writing, by either party.** Such twenty day notice of an asserted claim is in addition to the requirement for prompt notice required per Paragraph 12.3.

7.4.2 Except as provided by Public Contract Code Section 7102, the Contractor shall not claim or recover any overhead cost administrative or otherwise, particularly 'Home Office' expenses, 'Extended site overhead', or any other overhead cost on the basis of any 'Home Office' damages formula, 'Eichleay' formula, 'Total Cost' recovery formula or any other such formula.

- 7.4.3 Except as provided by Public Contract Code Section 7102, the Contractor shall have no claim for damages or compensation for any delay or hindrance. Contractor shall make any claims in writing within the time set forth above, for any unreasonable delay or hindrance caused by County, and specifying the cause thereof as required in **7.4.4 below**.
- 7.4.4 REQUIREMENTS FOR FILING A CLAIM. Claims must be filed within the time specified in 7.4.1 above, but in no event later than the date of final payment. Claims shall be submitted to the Tulare County Administrative Officer (or his/her designee). The claim shall be in writing and shall be sum certain if known. If unknown, Contractor shall specify the basis for establishing the sum certain. Claim shall include a statement of the reasons for the asserted entitlement, and include the documents necessary to substantiate the claim. Such documents may include but are not limited to payroll records, purchase orders, quotations, invoices, estimates, subcontracts, daily logs, supplier contracts, subcontract billings, bid takeoffs, equipment rental invoices, ledgers, journals, daily reports, job diaries, and any documentation related to the requirements of Article 12. In the case of a continuing delay, only one claim is necessary. If adverse weather conditions are the basis for a claim for additional time, such claim shall be documented by data substantiating that weather conditions were abnormal for the period of time and could not have been reasonably anticipated, and that weather conditions had an adverse effect on the critical activities on the construction schedule. The Contractor shall certify, at the time of submission of a claim, as follows:

"I certify under penalty of perjury under the laws of the State of California, that the foregoing claim is made in good faith, that the supporting data are accurate, and in my opinion, justify the contract adjustments requested.

By: _____"
(Contractor's signature)

Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by Contract for the filing of claims. For any claim subject to this Article 7.4, the following requirements apply:

- .1 For claims of less than fifty thousand dollars (\$50,000), the Tulare County Administrative Officer (CAO), shall review the facts pertinent to the claim, obtain additional information deemed necessary for a decision (if any), review recommendations of the County's Representative, coordinate with the contract administrator (if any) and secure assistance from legal and other advisors, and render a written decision on the claim within forty five (45) days of receipt of the claim. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the CAO and claimant. The CAO's written response to the claim, as further documented, shall be submitted to the claimant within fifteen (15) days after receipt of the further documentation or within a period of time no greater than that taken by the claimant in producing the additional information, whichever is greater.
- .2 For claims of fifty thousand dollars (\$50,000) or more, and less than or equal to three hundred seventy-five thousand dollars (\$375,000), the CAO shall review the facts pertinent to the claim, obtain additional information deemed necessary for a decision (if any), review recommendations of the County's Representative, coordinate with the contract administrator (if any) and secure assistance from legal and other advisors, and render a written decision on the claim within sixty (60) days of receipt of the claim, or may request, in writing, within thirty(30) days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the County may have against the claimant. If additional information is thereafter required, it shall be requested and provided pursuant to this subdivision, upon mutual agreement of the CAO and the claimant. The CAO's written response to the claim, as further documented, shall be submitted to the claimant within thirty (30) days after receipt of

the further documents, or a period of time no greater than that taken by the claimant in producing the additional information or requested documentation, whichever is greater.

- .3 If the claimant disputes the written response of the CAO or the CAO fails to respond within the time prescribed, the claimant may so notify the CAO, in writing, either within fifteen (15) days of receipt of the CAO's response or within fifteen (15) days of the CAO's failure to respond within the time prescribed, respectively, and demand an informal conference to meet and confer for settlement of the issues in dispute. Upon a demand, the CAO (or his/her designee) shall schedule a meet and confer conference within thirty (30) days for settlement of the dispute.
- .4 If following the meet and confer conference the claim or any portion remains in dispute, the claimant may file a claim pursuant to Chapter 1 (commencing with Section 900) and Chapter 2 (commencing with Section 910) of Part 3 of Division 3.6 of Title 1 of the Government Code. For purposes of those provisions, the running of the period of time within which a claim must be filed shall be tolled from the time the claimant submits his or her written claim pursuant to subdivision (a) until the time the claim is denied, including any period of time utilized by the meet and confer conference.

7.4.5 CLAIMS AND DISPUTES EXEMPT FROM FILING REQUIREMENTS. The procedures and remedies provided in this Article 7.4 do not apply to:

- .1 Any claims by the County;
- .2 Any claim for or respecting personal injury or death or reimbursement or other compensation arising out of or resulting from liability for personal injury or death;
- .3 Any claim or dispute relating to stop payment requests or stop notices; and
- .4 Any claim related to the approval, refusal to approve, or substitution of subcontractors, regardless of tier, and suppliers.

7.4.6 PAYMENT OF UNDISPUTED PORTION OF CLAIM. County shall pay claimant such portion of a claim which is undisputed except as otherwise provided in the Contract.

7.4.7 CONTINUE WORK DURING DISPUTE. In the event of any dispute between the County and the Contractor, the Contractor will not stop work but will prosecute the work diligently to completion in the manner directed by the County, and the dispute shall be resolved by a court of law after completion of the Work. However, all disputes must be submitted by Contractor in accordance with the provisions of Article 7.4.

7.5 **PERFORMANCE BOND AND LABOR AND MATERIAL PAYMENT BOND**

7.5.1 The Contractor shall furnish Performance Bond in the amount of 100% of the Contract amount and Payment Bond in the amount of 100% of the Contract amount. The Bonds shall be the forms shown in Sections 00502 and 00503 respectively.

7.5.2 All bonds required, whether Bid bonds, Performance, Payment, or other bonds, shall be on the forms provided in Sections 00501, 00502 and 00503 above. **The Bid Bond, Performance Bond, and Payment Bond must be issued by the same California admitted surety insurer.** The payment and performance bonds required by these specifications will neither be accepted nor approved by the County unless the bonds are underwritten by an admitted surety and the requirements of California Code of Civil Procedure section 995.630(a) and (b) are met and the bonds are accompanied by the County Clerk's certificate as provided for in California Code of Civil Procedure Section 995.640(b). The County further reserves the right to satisfy itself as to the acceptability of the surety and the form of bond. **Upon request of Tulare County the bidder must submit the following documents:**

- .1 **The original, or a certified copy, of the unrevoked appointment, power of attorney, bylaws,**

or other instrument authorizing the person who executed the bond to do so.

- .2 A certified copy of the certificate of authority of the insurer issued by the California Insurance Commissioner.
- .3 A certificate from the county clerk that the certificate of authority has not been surrendered, revoked, canceled, annulled, or suspended, or in the event that it has, that renewed authority has been granted.
- .4 A financial statement of the assets and liabilities of the insurer to the end of the quarter calendar year prior to **thirty (30) days** next preceding the date of the execution of the bond, in the form of an officers' certificate as defined in Corporations Code § 173. If the surety insurer is not found to be an "admitted surety insurer" the bid shall be determined non-responsive and shall be rejected. If the surety insurer's assets do not exceed its liabilities in an amount equal to or in excess of the amount of the bond, subject to Section 12090 of the Insurance Code; or if the bidder fails to provide the specified documents; the bid may be determined non-responsive and may be rejected.

7.5.3 All costs for applicable bid bonds, payment bonds and performance bonds shall be included in the bid.

7.6 RIGHTS AND REMEDIES

7.6.1 The duties and obligations imposed by the Contract Documents and the rights and remedies available thereunder shall be in addition to, and not a limitation of, any duties, obligations, rights and remedies otherwise imposed or available by law.

7.6.2 No action or failure to act by the County, the Construction Manager, the Architect or the Contractor shall constitute a waiver of any right or duty afforded any of them under the Contract, nor shall any such action or failure to act constitute an approval of or acquiescence in any breach thereunder, except as may be specifically agreed in writing.

7.7 TESTS AND INSPECTIONS

7.7.1 Materials Which May be Tested.

The County reserves the right to require the Contractor to provide samples, and to perform tests on any materials, articles, equipment, installations, or construction performed by the Contractor in addition to those specified in the Contract Documents. The County shall assume the cost of sampling and testing materials only when the Contract Documents do not require the Contractor to do so.

7.7.2 Testing.

All tests shall be performed under the supervision of the testing laboratory or Architect employed by the County and at such times as are convenient to the County. The Contractor shall provide written notice to the Construction Manager prior to the need for off-site tests or inspections, and the Construction Manager will arrange such tests or inspections.

7.7.3 Selection of Samples.

All samples and specimens for testing shall be selected by the Inspector or by the testing laboratory, but not by the Contractor.

7.7.4 Delivery of Samples.

The Contractor shall, at its sole cost and expense, furnish, package, mark, and deliver all samples

to be tested at locations other than the Site. Samples shall be delivered either to the Inspector or to the testing laboratory or such other address specified by the Construction Manager.

Delivery of all samples to the testing laboratory shall be made in ample time to allow the test to be made without delaying construction. No extra time will be allowed for the completion of the Work by reason of delay in testing samples required by the Contract Documents or due to the Contractor's request for substitution.

The Contractor shall allow free access at all times to the representatives of the testing laboratory to the Work, and shall point out the sources from which samples are taken.

All test reports shall be sent to all parties specified by the Construction Manager.

7.7.5 Approval of Samples.

No materials or work of which samples and/or tests are required shall be used or covered until the Construction Manager informs the Contractor that such samples and/or tests have been approved. If the Contractor installs, uses, or covers any such material, article, or work prior to testing and approval, such shall be at the Contractor's sole risk and expense, and it shall bear all costs of uncovering, repair, and replacement thereof. The approval of any samples shall be for the characteristics thereof, or for the uses named in such approval, and no other. No approval of any samples shall be deemed a change or modification in any requirement of the Contract Documents. Upon testing of any sample of material or work, no additional sample shall be considered. All material or work installed after the sampling and testing is performed and approved shall be equal to or better than the approved sample in all respects.

7.7.6 Damage Due to Testing.

The Contractor shall, at its sole cost and expense, repair all damage resulting from testing specified in the Contract Documents. The County shall issue a Change Order for repair of damage due to sampling or testing other than specified in the Contract Documents.

The Contractor shall not make any tests upon portions of the Project already completed, except with the prior written consent and under the direction and supervision of the Construction Manager.

7.7.7 Retesting.

If as a result of any test, whether originally specified or not, any material or work is found to be unacceptable, it shall be rejected, and all further sampling and testing required by the County or Construction Manager shall be at the Contractor's expense.

7.7.8 Effect of Sampling and Testing.

The County assumes no obligation, and the Contractor shall be relieved of no obligation undertaken pursuant to the Contract Documents by virtue of sampling and testing specified in this article.

The responsibility for incorporating satisfactory materials and workmanship which meet the Contract Documents in the work rest entirely with the Contractor, notwithstanding any prior samples or tests.

7.7.9 Inspection shall be provided as required, and consistent with, the most recent or effective code; volume; or version of the applicable Part of the California Building Standards Code within Title 24 of the California Code of Regulations. All inspection costs will be paid for by the County, including special inspection required by Title 24 CCR, except as noted otherwise below. A list of required inspections for the Project is included in the Contract Documents.

The Inspector shall be approved by the County. The Inspector will be employed by the County and

will perform all inspections in accordance with Title 24 CCR parts 1 through 5.

The designated Inspector shall be considered to be a representative of the County. It is the inspector's duty to inspect those portions of the Work which the County has designated.

The Inspector shall have the authority to order the work designated for inspection stopped if a determination is made that work is proceeding in violation of the Contract Documents or any orders issued by the County, Construction Manager, or Architect.

Upon issuing a stop work notice, the Inspector shall notify the Architect, who shall inspect the work in question and determine whether it does or does not comply with the Contract Documents. The decision of the Architect shall be final. The Contractor shall thereafter comply with the instructions of the Architect regarding corrections needed to cure the defect. The suspended work shall be resumed only when the instructions are fulfilled. The Contractor shall not be entitled to an extension of time in the event of such suspension of work.

Neither the final inspection and payment, nor any interim inspection or progress payment shall relieve the Contractor of its obligation to fulfill the Contract as required by the Contract Documents.

Any work, materials or equipment not meeting the requirements and intent of the Contract Documents may be rejected, and unsuitable work or materials shall be made good, notwithstanding the fact that such work or materials may previously have been inspected and/or payment therefore may have been made.

Should the Construction Manager or the Architect determine that it is necessary or advisable to make an inspection of work already completed at any time before final inspection and acceptance of the Work, by removing or exposing any work, the Contractor shall, upon instruction of the Construction Manager, promptly furnish all necessary facilities, labor, and materials to do so. If the work is found to be defective in any respect due to the fault of the Contractor or any subcontractor, the Contractor shall bear all expenses of such examination and satisfactory reconstruction. If, however, the work is found to meet the requirements of the Contract Documents, the additional cost of labor and material necessarily involved in the examination and replacement shall be allowed the Contractor and a change order shall be issued for such cost and any time extension justified by delays to the critical path.

Where the Contract Documents, instructions by the Inspector, Construction Manager or the Architect, laws, ordinances, or any public authority having jurisdiction require work to be inspected, tested or approved before the Work proceeds, such work shall not proceed, nor shall it be covered up without inspection. If any part of the Work is covered prior to inspection, the County may order the work to be uncovered so that inspection may be accomplished. The Contractor shall bear all expenses of such examination and satisfactory reconstruction.

The Contractor shall provide written notice to the Inspector at least twenty-four (24) hours in advance of the readiness for inspection.

All work shall be available for inspection and the Inspector shall have full access to review all work during all working times. The Contractor shall provide all necessary means of access (e.g. ladders) for the Inspector to perform its duties. The Contractor shall furnish the Inspector with any information necessary to fully inform it of conditions. Inspection does not relieve the Contractor from fulfilling the requirements of the Contract Documents.

ARTICLE 8
TIME

8.1 DEFINITIONS

- 8.1.1 Unless otherwise provided, the Contract Time is the period of time allotted in the Contract Documents for Completion of the Work as defined in Subparagraph 8.1.3, including authorized adjustments thereto. "Date of Completion" is the date certified by the Construction Manager when construction of the Work is 100% complete including acceptance by the Architect on all punch list corrections.
- 8.1.2 The Date of Commencement of the Work is the date established in a Notice to Proceed. If there is no Notice to Proceed, it shall be such other date as may be established in the County-Contractor Agreement and receipt of all required preconstruction submittals, bonds and insurance, or as established elsewhere in the Contract Documents.
- 8.1.3 The Date of Completion of the Work or designated portion thereof is the Date certified by the Construction Manager when construction is sufficiently complete, in accordance with the Contract Documents, so that the County or separate contractors can occupy or utilize the Work or a designated portion thereof for the use for which it is intended.
- 8.1.4 The Date of Completion of the Project (if more than one phase or contractor) or designated portion thereof is the Date certified by the Construction Manager when construction is sufficiently complete so the County can occupy or utilize the Project or designated portion thereof for the use for which it was intended.
- 8.1.5 The term Day as used in the Contract Documents shall mean calendar day of 24 hours, including each and every day of the year unless specifically designated otherwise.
- 8.1.6 Abnormal Weather Conditions as used in the Contract Documents shall be defined as weather conditions that the area does not encounter more than once, on an average of every ten or fifteen years.
- 8.1.7 Normal Weather Conditions are weather conditions which are normal for the location of the Project, according to the U. S. Weather Bureau Records. The Contractor shall reasonably anticipate that normal weather conditions will be encountered, which based on the weather data from the Western Regional Climate Center, National Weather Service, for Visalia, California, average precipitation days per month are as follows:

January	5 days
February	5 days
March	4 days
April	2 days
May	1 day
June	0 days
July	0 days
August	0 days
September	0 days

October 1 day
November 3 days
December 4 days
Total: 25 days/year

Final determination of the final impact of adverse weather may be deferred to the conclusion of the Work. Extensions of time may be requested for any month of construction for days lost, which affect the critical path of construction, due to adverse weather in excess of the normal weather conditions, as defined above. If adverse weather conditions are the basis for a Claim for additional time, such Claim shall be documented by data substantiating days claimed and the impact on the critical path of construction.

The Contractor will not be granted time extensions for weather conditions which are normal for the Project location.

8.2 PROGRESS AND COMPLETION

8.2.1 All time limits stated in the Contract Documents are of the essence of the Contract.

8.2.2 The Contractor shall begin the Work on the date of commencement as defined in Subparagraph 8.1.2.

8.2.3 The Contractor shall carry the Work forward expeditiously with adequate forces and shall achieve Completion of the Work within the Contract Time.

8.3 DELAYS AND EXTENSIONS OF TIME

8.3.1 Extensions of Time; Unavoidable Delays.

The Contractor shall not be granted an extension of time except on the issuance of a Change Order by the County, upon a finding of good cause for such extension.

A. As used herein, the following terms shall have the following meanings:

"Excusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time caused by conditions beyond the control and without the fault or negligence of the Contractor. These events may include strikes, embargoes, fire, unavoidable casualties, national emergency, and stormy and inclement weather conditions in which the Construction Manager and Inspector agree that work on the critical path cannot continue. The financial inability of the Contractor or any Subcontractor or supplier and any default of any Subcontractor, without limitation, shall not be deemed conditions beyond the Contractor's control. An Excusable Delay may entitle the Contractor to an extension of the Contract Time, in accordance with this Section of the general conditions, but shall not entitle the Contractor to any adjustment of the Contract Sum.

"Compensable Delay" means any delay in the completion of the Work beyond the expiration date of the Contract Time caused solely by the wrongful acts of the County and which delay is unreasonable under the circumstances and not within the contemplation of the parties. A Compensable Delay may entitle the Contractor to an extension of the Contract Time, in accordance with this Section of the General Conditions and/or an adjustment of the Contract Sum, in accordance with Article 12. Except as provided herein, the Contractor shall have no claim for damage or compensation for any delay, interruption, hindrance, or disruption.

"Inexcusable Delay" means any delay in completion of the Work beyond the expiration of the Contract Time resulting from causes other than those listed in Subparagraphs A1 and A2, above. An Inexcusable Delay will not entitle the Contractor to an extension of the Contract Time or an adjustment of the Contract Sum.

- B. The Contractor may make a claim for an extension of the Contract Time, for an Excusable Delay or a Compensable Delay, subject to the following:
1. If an Excusable Delay and a Compensable Delay occur concurrently, the maximum extension of the Contract Time shall be the number of days from the commencement of the first delay to the cessation of the delay which ends last. Any adjustment of the Contract Sum shall be in accordance with Article 12 and shall be based only on the non-concurrent portion of any Compensable Delay.
 2. If an Inexcusable Delay occurs concurrently with either an Excusable Delay and/or a Compensable Delay, the maximum extension of the Contract Time shall be the number of days, if any, by which the duration of the Excusable Delay and/or the Compensable Delay calculated in accordance with Subparagraph B1, if applicable, exceeds the Inexcusable Delay. The duration of the concurrence is non-compensable.

Delays in the prosecution of parts or classes of the Work which do not prevent or delay the completion of the whole Work within the Contract Time are not to be considered Excusable or Compensable.

8.3.2 Notice of Delays.

Whenever the Contractor foresees any delay in the prosecution of the Work, and in any event immediately upon the occurrence of any delay which the Contractor regards as good cause for an extension, the Contractor shall notify the Construction Manager in writing of the delay. The notice shall specify with detail the cause asserted by the Contractor to constitute good cause for an extension together with a description of the effect of the delay on the Construction Schedule and a quantification of the length of the requested extension of time. Failure of the Contractor to submit such a notice within seven (7) days after the initial occurrence of the event giving rise to the delay shall constitute a waiver by the Contractor of any request for extension, and no extension shall be granted as a consequence of such delay. Any claim or extension of time shall be made in writing to the Construction Manager not more than ten (10) days after the commencement of the delay; otherwise it shall be waived. In the case of a continuing delay only one claim is necessary. The Contractor shall provide an estimate of the probable effect of such delay on the progress of the Work.

The County shall have no obligation to consider any time extension request unless the requirements of the Contract Documents are complied with. The County shall not be responsible or liable to the Contractor for any constructive acceleration due to failure of the County to grant time extensions under the Contract Documents, should the Contractor fail to comply with the submission and justification requirements of the Contract Documents for time extension requests. The Contractor's failure to perform in accordance with the Construction Schedule shall not be excused because the Contractor has submitted time extension requests, unless and until such requests are approved by the County.

8.3.3 Investigation; Procedure.

Upon receipt of a request for extension, the Construction Manager shall conduct an investigation of the facts asserted by the Contractor to constitute good cause for an extension. The Construction Manager shall report the results of this investigation, as well as the propriety of the time extension requested, to the Contractor in writing within ten (10) days of receipt of the request and shall indicate whether it will recommend for or against the extension.

Upon receiving the Construction Manager's recommendation, the Contractor may either concur in the recommendation, or reject the recommendation and proceed with a claim as provided for in Article 7.4.

8.3.4 Discretionary Time Extensions for Best Interest of County.

The County reserves the right to extend the time for completion of the Work if the County determines that such extension is in the best interest of the County. In the event that a discretionary extension is granted at the request of the Contractor, the County shall have the right to charge to the Contractor all or any part, as the County may deem proper, of the actual cost of construction management, Consulting, inspection, supervision, incidental and other overhead expenses that accrue during the period of the extension, and to deduct all or any portion of that amount from the final payment for the Work.

In the event a discretionary time extension is ordered over the objection of the Contractor, and the decision rests solely with the County and is not legally compelled for any cause, the Contractor shall be entitled to a Change Order adjusting the price paid to reflect the actual costs incurred by the Contractor as a direct result of the delay, upon its written application therefore, accompanied with such verification of costs as the Construction Manager requires. The decision of the County on any discretionary time extension and the costs thereof shall be final and binding on the County and the Contractor.

8.3.5 Liquidated Damages.

If the Work is not completed by the Contractor in the time specified in, or within any period of extension authorized pursuant to this Article, the Contractor acknowledges and admits that the County will suffer damage, and that it is impracticable and infeasible to fix the amount of actual damages. Therefore, it is agreed by and between the Contractor and the County that the Contractor shall pay to the County as fixed and liquidated damages, and not as a penalty, the sum specified in the Agreement for Construction for each calendar day of delay until the Date of Completion, and that both the Contractor and the Contractor's surety shall be liable for the total amount thereof, and that County may deduct Liquidated Damages from any monies due or that may become due to the Contractor. If it appears during the course of construction that the Contractor is behind schedule and the imposition of liquidated damages is likely, or if liquidated damages begin to accrue prior to the time for final payment, the amount accrued shall be withheld from any progress payment that would otherwise be due. This right to withhold funds is intended to complement the County's rights under Section 9.6.1.

This liquidated damages provision shall apply to all delays of any nature whatsoever, save and except only delays found to be excusable or compensable pursuant to Section 8.3, or time extensions granted by the County pursuant to Section 8.3.

Payment by the County of any progress payments after expiration of the Contract Time shall not constitute a waiver by the County of its right to claim liquidated damages in accordance with this Section.

8.3.6 Extension of Time Not a Waiver.

Any extension of time granted the Contractor pursuant to this Article shall not constitute a waiver by the County of, nor a release of the Contractor from the Contractor's obligation to perform this Contract in the time specified by the Agreement, as modified by the particular extension in question.

The County's decision to grant a time extension due to one circumstance set forth in one request, shall not be construed as a grant of an extension for any other circumstance or the same circumstance occurring at some other time, and shall not be viewed by the Contractor as a precedent for any other request for extension.

8.3.7 Suspensions Exceeding One Year.

Should the Work be suspended for a period exceeding one calendar year due to war conditions, labor conditions, legal actions, or for other conditions constituting the legal defense of impossibility of performance, the Contractor and County agree to enter into an agreement terminating the Agreement upon the following terms and conditions.

County shall be responsible only to pay the Contractor the actual value of the work performed from the Date of Commencement or from the date of the last progress payment, whichever is later, plus the five percent (5%) retention from such prior progress payments, less any deductions authorized by the Contract Documents.

As between the Contractor and County, it shall be conclusively presumed that the actual value for the Contractor's work to the date of the last progress payment is no more than the actual amount of that prior progress payment plus the five percent (5%) retention from such those progress payments; provided, however, that this Section shall not preclude County from deducting charges for work or materials which do not meet the requirements of the Contract Documents.

Effect of Stop Work Notice.

If the County orders a suspension of the Work pursuant to Article 14, the days on which the suspension is in effect shall be included in determining the required completion date, and shall not otherwise modify or extend the time within which the Contractor is to perform. In such event, the Contractor shall not be entitled to any damages or compensation on account of such suspension or delay, unless the Contractor can establish that Stop Work Notice was not warranted.

**ARTICLE 9
PAYMENTS AND COMPLETION**

9.1 CONTRACT SUM

9.1.1 The Contract Sum is stated in the County-Contractor Agreement and, including authorized adjustments thereto, is the total amount payable by the County to the Contractor for the performance of the Work under the Contract Documents.

9.2 SCHEDULE OF VALUES

9.2.1 As part of the required post-bid submittals, and at least fourteen (14) days prior to the first payment application, the Contractor shall submit to the Construction Manager a Schedule of Values allocated to the various portions of the Work, prepared in such form and in sufficient detail to allow evaluation of the progress of construction. In no event shall an individual line item on a schedule of values exceed five percent (5%) of the Contract Sum. Labor, material, and subcontract costs shall be shown separately. Cost of contract closeout shall be shown as an individual line item, up to five percent of the Contract Sum. All other General Conditions items should be prorated among the actual construction values. The Schedule of Values shall be supported by such data to substantiate its accuracy as the Construction Manager may require. This schedule, unless objected to by the Construction Manager, shall be used only as a basis for the Contractor's Applications for Payment.

9.3 APPLICATIONS FOR PAYMENT

9.3.1 At least fifteen (15) days before the date for each progress payment established in the County-Contractor Agreement, the Contractor shall submit to the Construction Manager an itemized Application for Payment, notarized if required, supported by such data substantiating the Contractor's right to payment as the County or the Construction Manager may require, and

reflecting retainage, if any, as provided elsewhere in the Contract Documents. AIA Documents G702, Application and Certificate for Payment and G703, Continuation Sheet, or other substitute form supplied and required by the County shall be used. Payment is expressly conditioned upon submission by the Contractor and all of its subcontractors and material suppliers warranting that title to all work, labor, materials and equipment covered by the application is free and clear of all liens, claims, security interests or encumbrances. Additionally the Contractor and all of its subcontractors and material suppliers shall submit unconditional lien releases for all work through the prior progress payment. For final payment, the Contractor shall submit a notarized unconditional lien release. Waiver and Release forms must be submitted on forms provided or approved by the County of Tulare. Copies of said forms shall comply with Civil Code §3262.

9.3.2 No progress payment will be made unless all general conditions items (as-built updates, schedule updates, certified payroll or other pay records, lien releases, etc.) have been received by the Construction Manager in acceptable form. The onsite master set of drawings will be reviewed by the Construction Manager to verify that all changes have been noted and that the drawings are current prior to the processing of any pay application.

9.3.3 Unless otherwise provided in the Contract Documents, payments may be made on account of materials or equipment not incorporated in the Work but delivered and suitably stored at the site and, if approved in advance by the County, payments may similarly be made for materials or equipment suitably stored at some other location agreed upon in writing. Payments for materials or equipment stored on or off the site shall be conditioned upon submission by the Contractor of bills of sale or such other procedures satisfactory to the County to establish the County's title to such materials or equipment or otherwise protect the County's interest, including applicable insurance and transportation to the site for those materials and equipment stored off the site. Materials stored off-site, to be considered for payment, shall, in addition to the above requirements, be stored in a bonded warehouse, fully insured, and available to the Architect and Construction Manager for inspection. The Construction Manager shall have complete discretion as to the amount of material and equipment that may be stored on the Site at any given time.

9.3.4 The Contractor warrants that title to all Work, materials and equipment covered by an Application for Payment will pass to the County either by incorporation in the construction or upon receipt of payment by the Contractor, whichever occurs first, free and clear of all liens, stop notices, claims, security interest or encumbrances, hereinafter referred to in this Article 9 as "liens"; and that no Work, materials or equipment covered by an Application for Payment will have been acquired by the Contractor, or by any other person performing Work at the site or furnishing materials and equipment for the Project, subject to an agreement under which an interest therein or an encumbrance thereon is retained by the seller or otherwise imposed by the Contractor or such other person.

The Contractor agrees that neither it nor any person, firm, or corporation furnishing any materials or labor for any work covered by this Contract shall have any right to a lien upon the premises or any improvement or appurtenances thereon; provided, however, that nothing contained in this Section shall defeat or impair the rights of persons furnishing materials or labor under the payment bond given by the Contractor, nor any rights under any law permitting such persons to look to funds due to the Contractor but retained by County.

The Contractor shall cause the provisions of this Section to be inserted in all subcontracts and material contracts executed by the Contractor and notice of this provision shall be given to all persons furnishing materials for the Work.

This Section shall not disallow the Contractor's installing any devices or equipment of utility companies or of governmental agencies, the title to which is commonly retained by the utility

company or the agency.

- 9.3.5 Progress Payments: The Contractor shall on or before the assigned billing date of each month make an estimate of the work performed during the preceding month and submit an itemized Application for Payment, notarized if required, supported by such data substantiating the Contractor's right to payment as the County or the Construction Manager may require, including appropriate updates to the CPM Construction Schedule, and reflecting retainage, if any, as provided elsewhere in the Contract Documents. The Contractor will assemble the Application and forward it to the Construction Manager within seven days for checking and approval.

At a meeting held on or before the assigned billing date of each month, the Construction Manager, Architect, Inspector and Contractor will review the Contractor's proposed percentages of completion and agree on a final percentage to be paid for that month.

On or about the twenty fifth (25th) day following the assigned billing date of the month in which the work was performed, the County shall pay to the Contractor ninety-five (95%) percent of the value of said work in place, as checked and approved by the Construction Manager. The balance of five (5%) percent of the estimate shall be retained by the County until the time of final acceptance of said work. In lieu of the five (5%) percent retainage, the Contractor may substitute securities as provided in Article 9.3.5 below. The Contractor may apply to reduce said rate of retainage as set forth in Article 5 of the County-Contractor Agreement.

- .1 If the County does not pay the Contractor within thirty days after receipt of an undisputed and properly submitted payment request for a progress payment, excluding that portion of the final payment designated by the Contract as retention earnings, then the County shall pay interest to the Contractor as provided by Public Contract Code § 20104.50. Payment for Change Orders, if any, under this Contract shall be made in like manner. Said interest penalty is the sole recourse of Contractor and Contractor shall have no right to stop the Work until payment of the amount owing has been received, nor shall the Contract Time be extended, nor shall the Contract Sum be increased in any way, including by reason of any costs incurred by Contractor, except to the extent of said interest payment.
- .2 Pursuant to public Contract Code § 7107, in the event of a dispute between the County and Contractor, the County may withhold from the final payment an amount not to exceed 150 percent (150%) of the disputed amount. Except as so provided, the County shall release the retention withheld within sixty (60) days after the date of completion of the work of improvement, as "completion" is defined in Public Contract Code § 7107. In the event that retention payments are not made within the time periods required by Public Contract Code § 7107, the County may be subject to the interest provisions of Public Contract Code § 7107.

- 9.3.6 Security Substitutions and Escrow for Moneys Withheld to Insure Contractor's Performance. Pursuant to Public Contract Code section 22300, the Contractor may deposit in an escrow, equivalent securities for any moneys withheld to insure performance and have said moneys paid directly to Contractor, or, in the alternative, have the County deposit such moneys directly into an escrow. Upon the closing of any such escrow, Contractor shall pay to each subcontractor, not later than twenty (20) days after receipt of the closing payment, the respective amount of interest earned, net of costs attributed to retention withheld from each subcontractor, on the amount of retention withheld to insure the performance of the Contractor. Any escrow established pursuant to this article shall be with a state or federally chartered bank, shall be at the sole expense of the Contractor, and shall be established using an escrow agreement in substantially the following form:

Either alternative under this Section may be exercised only if requested in writing by the Contractor

within five (5) days after receipt of Notice of Intent to Award. The Contractor shall notify its subcontractors in writing within fifteen (15) days of exercising this option.

**ESCROW AGREEMENT FOR
SECURITY DEPOSITS IN LIEU OF RETENTION**

This Escrow Agreement ("Escrow Agreement") is made and entered into by and between the County of Tulare, a political subdivision of the State of California (hereinafter called "County"), _____ (hereinafter called "Contractor"); and _____, a state or federally chartered bank in California, (hereinafter called "Escrow Agent").

For the consideration hereinafter set forth, the County, Contractor, and Escrow Agent agree as follows:

1. Pursuant to Section 22300 of the Public Contract Code of the State of California, Contractor has the option to deposit securities with Escrow Agent as a substitute for retention earnings required to be withheld by County pursuant to the Construction Contract entered into between the County and Contractor for _____ in the amount of \$ _____, and dated _____ (hereinafter referred to as the "Contract"). Alternatively, on written request of the Contractor, the County shall make payments of the retention earnings directly to the Escrow Agent. When Contractor deposits the securities as a substitute for Contract earnings, the Escrow Agent shall notify the County within ten (10) days of the deposit. The market value of the securities at the time of the substitution, as valued by the County, shall be at least equal to the cumulative total cash amount then required to be withheld as retention under the terms of the Contract.. If the County determines that the securities are not adequate it will notify Contractor and Escrow Agent, and Contractor shall deposit additional security as further determined by the County. Securities shall be held in the name of the County and shall designate the Contractor as the beneficial owner.
2. Upon the deposit of adequate securities, County shall make progress payments to the Contractor for such funds which otherwise would be withheld from progress payments pursuant to the Contract provisions.
3. When the County, at Contractor's written request, makes payment of retentions earned directly to the Escrow Agent, the Escrow Agent shall hold them for the benefit of the Contractor until such time as the escrow created under this Escrow Agreement is terminated. The Contractor may direct the investment of the payments into securities. All terms and conditions of this Escrow Agreement and the rights and responsibilities of the parties shall be equally applicable and binding when the County pays the Escrow Agent directly.
4. Contractor shall be responsible for paying all fees for the expenses incurred by Escrow Agent in administering the Escrow Account and all expenses of the County. These expenses and payment terms shall be determined by the County, Contractor and Escrow Agent.
5. The interest earned on the securities or the money market accounts held in escrow and all interest earned on that interest shall be for the sole account of Contractor and shall be subject to withdrawal by Contractor at any time and from time to time without notice to the County.
6. Contractor shall have the right to withdraw all or any part of the principal in the Escrow Account only by written notice to Escrow Agent accompanied by written authorization from County to the Escrow Agent that County consents to the withdrawal of the amount sought to be withdrawn by Contractor.
7. The County shall have the right to draw upon the securities or any amount paid directly to Escrow Agent in the event of default by the Contractor. Upon seven (7) days written notice to the Escrow Agent from the County of the default, the Escrow Agent shall immediately convert the securities to

cash and shall distribute the cash, including any amounts paid directly to Escrow Agent, as instructed by the County. Escrow Agent shall not be concerned with the validity of any notice of default given by County pursuant to this paragraph, and shall promptly comply with County's instructions to pay over said escrowed assets. Escrow Agent further agrees to not interplead the escrowed assets in response to conflicting demands and hereby waives any present or future right of interpleader.

8. Upon receipt of written notification from the County certifying that the Contract is final and complete, and that the Contractor has complied with all requirements and procedures applicable to the Contract, Escrow Agent shall release to Contractor all securities and interest on deposit less escrow fees and charges of the Escrow Account. The escrow shall be closed immediately upon disbursement of all moneys and securities on deposit and payment of fees and charges.
9. Escrow Agent shall rely on the written notifications from the County and Contractor pursuant to Sections (3), (5), (6), (7) and (8) of this Escrow Agreement and the County and Contractor shall hold Escrow Agent harmless from Escrow Agent's release and disbursement of the securities and interest as set forth above.
10. Securities eligible for investment under this Escrow Agreement, as provided by Public Contract Code § 22300, shall be those listed in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest bearing demand deposit accounts, standby letters of credit, or any other security mutually agreed to by the Contractor and County.
11. The venue of any litigation concerning the rights and obligations of the parties to this Escrow Agreement shall be the County of Tulare and the removal provisions of Code of Civil Procedure Section 394 shall not apply to any such litigation.
12. The names of the persons who are authorized to give written notice or to receive written notice on behalf of the County and on behalf of Contractor in connection with the foregoing, and exemplars of their respective signatures are as follows:

On behalf of County:

Title
Name
Signature
Address

On behalf of Contractor:

Title
Name
Signature
Address

On behalf of Escrow Agent:

Title
Name
Signature
Address

At the time the Escrow Account is opened, the County and Contractor shall deliver to the Escrow Agent a fully executed counterpart of this Escrow Agreement.

IN WITNESS WHEREOF, the parties have executed this Escrow Agreement by their proper officers on the date first set forth above.

County:

Title
Name
Signature
Address

Contractor:

Title
Name
Signature
Address

Escrow Agent:

Title
Name
Signature
Address

9.3.7 Itemized Breakdown: The Contractor shall submit a financial breakdown of the Work, itemized by crafts or sections as designated by the Construction Manager. The Contractor's payment shall be based upon the monthly percentage of completion of these items.

9.3.8 Lien Waivers: The County or Construction Manager may require the Contractor to submit, along with the progress payment request, notarized lien waivers from each subcontractor, materials or equipment supplier. Lien waivers shall comply with Civil § Code 3262. The aggregate sum of which shall reflect previous progress payments.

9.4 **CERTIFICATES FOR PAYMENT**

9.4.1 The Construction Manager will, within seven (7) days after the receipt of the Project Application for Payment, review the Project Application for Payment and either issue a Project Certificate for Payment to the County for such amounts as the Construction Manager determines are properly due, or notify the Contractor in writing of the reasons for withholding a Certificate as provided in Subparagraph 9.6.1. The application for payment shall be made on AIA Documents G702 and G703 of the latest edition, in triplicate.

9.4.2 The issuance of a Project Certificate for Payment will constitute a representation by the Construction Manager, Architect and Inspector to the County that, based on their observations at the site as provided in Subparagraph 2.2.4 and the data comprising the Project Application for Payment, the Work has progressed to the point indicated; that, to the best of the Construction Manager's, Architect's and Inspector's knowledge, information and belief, the quality and timeliness of the Work is in accordance with the Contract Documents (subject to an evaluation of the Work for conformance with the Contract Documents upon Completion of the Work, to the results of any subsequent tests required by or performed under the Contract Documents, to minor deviations from the Contract Documents correctable prior to completion, and to any specific qualifications stated in the Certificate); and that the Contractor is entitled to payment in the amount certified. However, by issuing a Project Certificate for Payment, the Construction Manager, Architect and Inspector shall not thereby be deemed to represent that they have made exhaustive or continuous on-site inspections to check the quality or quantity of the Work, have reviewed the construction means, methods, techniques, sequences or procedures, or have made any examination to ascertain how or for what purpose the Contractor has used the monies previously paid on account of the Contract Sum.

9.5 **PROGRESS PAYMENTS**

9.5.1 After the Construction Manager has issued a Project Certificate for Payment, the County shall make payment in the manner and within the time provided in the Contract Documents.

9.5.2 The Contractor shall promptly pay each Subcontractor upon receipt of payment from the County, out of the amount paid to the Contractor on account of such Subcontractor's Work, the amount to which Subcontractor is entitled, reflecting the percentage actually retained, if any, from payments to the Contract on account of such Subcontractor's Work. The Contractor shall, by an appropriate agreement with each Subcontractor, require each Subcontractor to make payments to their Sub-subcontractors in similar manner.

9.5.3 The Construction Manager may on request, at the Construction Manager's discretion, furnish to any Subcontractor, if practicable, information regarding the percentages of completion or the amounts applied for by the Contractor and the action taken thereon by the Construction Manager on account of Work done by such Subcontractor.

9.5.4 Neither the County nor the Construction Manager shall have any obligation to pay or to see to the payment of any monies to any Subcontractor or Material Suppliers except as may otherwise

be required by law.

- 9.5.5 Neither certification of a progress payment, delivery of a progress payment, nor partial or entire use or occupancy of the Project by the County, shall constitute an acceptance of any Work not in accordance with the Contract Documents.

9.6 **PAYMENTS WITHHELD**

- 9.6.1 The Construction Manager may decline to certify payment and may withhold the Certificate in whole or in part to the extent necessary to reasonably protect the County, if, in the Construction Manager's opinion, the Construction Manager is unable to make representations to the County as provided in Subparagraph 9.4.2. If the Construction Manager is unable to make representations to the County as provided in Subparagraph 9.4.2, and to certify payment in the amount of the Project Application, the Construction Manager will notify the Contractor as provided in Subparagraph 9.4.1. If the Contractor and the Construction Manager cannot agree on a revised amount, the Construction Manager will promptly issue a Project Certificate for Payment for the amount for which the Construction Manager is able to make such representations to the County. The Construction Manager may also decline to certify payment or, because of subsequently discovered evidence or subsequent observations, the Construction Manager may nullify the whole or any part of any Project Certificate for Payment previously issued to such extent as may be necessary, in the Architect's opinion, to protect the County from loss because of:

- .1 defective Work not remedied;
- .2 third party claims filed or reasonable evidence indicating probable filing of such claims, including claims by separate contractors;
- .3 failure of the Contractor to make payments properly to Subcontractors, or for labor, materials or equipment;
- .4 reasonable evidence that the Work cannot be completed for the unpaid balance of the Contract Sum;
- .5 damage to the County or another contractor;
- .6 reasonable evidence that the Work will not be accomplished in compliance with the Contract Time;
- .7 persistent failure to carry out the Work in accordance with the Contract Documents; or
- .8 stop notice served upon the County.
- .9 Failure of the Contractor to comply with any lawful or proper direction concerning the Work given by any County representative authorized to have given such instruction;
- .10 Claims and/or penalties which state law assesses against the Contractor for violation of such law;
- .11 Any claim or penalty asserted against the County by virtue of the Contractor's failure to comply with the provisions of all governing laws, ordinances, regulations, rules, and orders;
- .12 Any liquidated damages which may accrue as a result of the Contractor's progress failing to meet the schedule milestones or failing to achieve completion within the Contract Time.
- .13 Any reason specified elsewhere in the Contract Documents as grounds for a retention or that would legally entitle the County to a withhold.

- 9.6.2.1 When the grounds in Subparagraph 9.6.1 above are removed, payment shall be made for amounts withheld because of them.

In order to adequately protect the County, the Contractor agrees that the basic standard to determine the amount to be withheld pursuant to this Section shall be one hundred fifty percent (150%) of the amounts claimed or the value of the work not done or defectively done; provided, however, that County reserves the authority to retain greater sums should such sums be necessary in the County's discretion to adequately protect it.

Disbursement of Withheld Amounts.

The County, in its sole discretion, may apply any withheld amount or amounts to the payment of any claim resulting in a withhold. The Contractor agrees and hereby designates the County as its agent for such purposes, and any payment so made by the County shall be considered as a payment made under this Contract by the County to the Contractor. The County shall not be liable to the Contractor for any payments made in good faith. Such payments may be made without a prior judicial determination of the claim or claims. The County shall render to the Contractor a proper accounting of any funds disbursed on behalf of the Contractor.

Prior to disbursing any amounts, County shall afford the Contractor an opportunity to present good cause, if any it has, why the claim or claims in issue are not valid or just claims against the Contractor. The County reserves the right then to take such further steps as are appropriate, in its sole discretion, including, but not limited to, seeking a judicial resolution of the controversy.

Correction of Statement and Withholding of Payment.

No inaccuracy or error in any statement provided by the Contractor shall operate to release the Contractor or any surety from the error, or from damages arising from such work, or from any obligation imposed by the Contract Documents. The County shall retain the right subsequently to correct any error made in any previously issued claim for the progress payment, or progress payment issued, by adjustments to subsequent payments.

Effect of Progress Payments.

Neither the payment, the withholding, nor the retention of all or any portion of any progress payment claimed to be due and owing to the Contractor shall operate in any way to relieve the Contractor from its obligations under this Agreement. The Contractor shall continue diligently to prosecute the Work without reference to the payment, withhold, or retention of any progress payment. The payment, withhold, or retention of any progress payment shall not be grounds for an extension of the Contract Time.

9.7 COMPLETION, INSPECTION, AND OCCUPANCY BY COUNTY

9.7.1 Notice of Punch List Inspection.

When the Contractor believes that a phase of its Work is complete, it shall request in writing a punch list inspection. Within five (5) days of the receipt of such request, the Construction Manager and the Architect shall make a punch list inspection or inform the Contractor that the Work is not ready for punch list inspection; upon completion of the deficient work, the Contractor shall again request a punch list inspection. The Contractor or its representatives shall be present at the punch list inspection. The purpose of the punch list inspection is to determine whether the Work has been completed in accordance with the Contract Documents, including all Change Orders, all interpretations and instructions previously issued.

If Contractor fails to attend any punch list inspection, the Contractor shall be charged for the cost of the Construction Manager, Architect, the Inspector, and other design professionals who attended the punch list inspection.

Punch List.

The Construction Manager and the Architect shall notify the Contractor in writing of any deficiencies to be remedied prior to final acceptance, by preparing a written list, known in the industry as a punch list.

The Contractor shall remedy all items shown on the punch list prior to final acceptance by the Construction Manager and the Architect.

No one is authorized to amend the Contract Documents by use of the punch list; it is provided

solely for the benefit of the Contractor to enable it to determine what items must be corrected before final acceptance will be recommended by the Construction Manager and the Architect. The County reserves the right to require compliance with the Contract Documents, notwithstanding the issuance of a punch list or the completion by the Contractor of all items on the punch list.

In the event that the Work still does not comply with the Contract Documents, the County reserves the right to issue such further punch lists as may be required, or to deduct from the final payment the cost of correcting any work not completed in accordance with the Contract Documents, but accepted by the County, without the issuance of further punch lists.

If punch list work needs to be performed after the County has taken occupancy of a phase, the work shall be conducted outside of normal operating hours at the direction of the Construction Manager.

9.7.2 Use of Work Prior to Acceptance.

Whenever, in the opinion of the County, the Work or any part thereof, is in a condition suitable for use, and the best interests of the County require such use, the County may take possession of, connect to, and open for public or County use that portion of the Work.

9.7.3 Repairs or Renewal in the Work.

Prior to the Date of Completion, the Contractor shall make all repairs or renewals in the portion of the Work occupied made necessary due to defective material or workmanship, or the operations of the Contractor, ordinary wear and tear accepted.

9.7.4 Effect of Occupancy.

The County occupancy as contemplated in this Article shall not constitute acceptance by the County of the Work or any part thereof. Such use shall neither relieve the Contractor of any of its responsibilities under the Contract Documents, nor act as a waiver by the County of any of the terms or conditions of the Contract Documents. Any damage done by the County is the responsibility of the County.

9.7.5 Coordination with Other Activities.

The Contractor shall conduct its operations so as not to interfere unreasonably with the County's use of the occupied portions of the site. The Contractor shall submit periodic schedules to the Construction Manager proposing the times, areas, and types of work to be done within such areas.

If the Work produces conditions rendering the occupied portions of building, the Site, or other areas uninhabitable, either because of noise, dust, vibration, smoke, fumes, or for any other cause whatsoever, the Construction Manager may suspend the Work or direct the Contractor to modify the Construction Schedule, and the Contractor shall comply.

Except as provided by Change Order, the Contractor shall not be entitled to a time extension or increase in the Contract Sum by virtue of conflicts between the Contractor's work and the County's occupancy.

9.7.6 Warranties required by the Contract Documents shall commence on the date of the recording of the Notice of Completion on the Project.

9.8 **FINAL COMPLETION, CONTRACT CLOSEOUT AND FINAL PAYMENT**

9.8.1 Contractor's Request for Final Payment.

When the Contractor determines that the Contract is complete and all items on the punch list have been satisfied, or contends that such items are not required by the Contract Documents, the

Contractor shall submit a request for final payment.

9.8.2 Additional Submissions.

Simultaneously with the Contractor's request for final payment, the Contractor shall submit the following items to the Construction Manager:

- A. As-built drawing information pursuant to Section 4.11.3.
- B. Three (3) sets of documentation completely covering the operation and maintenance of the mechanical and electrical installation, elevators, kitchen equipment, and all other equipment required by the technical specifications to be furnished with such manuals. The documentation shall include charts, diagrams, performance curves, catalog information, lubrication manuals, and details pertaining to the functioning of various items of equipment. The documentation shall be divided logically into "systems" on the basis of operation, without respect to trades, subcontractors or arbitrary specifications sections. The relationship of the "systems" shall be clearly and concisely detailed.

No payment will be processed unless accompanied by the listed documents in acceptable form.

Final Estimate.

Upon receipt of the submittals required by this Article, the Construction Manager shall prepare a written estimate of the sum due to the Contractor. This estimate shall take into account the Contract Sum, as adjusted by any Change Orders; amounts already paid; and sums to be retained for incomplete work, liquidated damages, and for any other cause under the Contract Documents.

The Architect shall prepare a statement of final inspection, stating that the Work has been given a final inspection, that the Contractor has submitted the required documents, setting forth with detail any deviations in the Work as completed from the Contract Documents, and estimating the cost of correction of such deviations.

The Architect's statement shall be transmitted to the County along with the Contractor's request for final payment. The Construction Manager shall provide a copy of the Architect's statement of final inspection and the Construction Manager's estimate of the sum due to the Contractor.

If the Contractor contests the estimate of sums due prepared by the Construction Manager, within seven (7) calendar days following service of Construction Manager's estimate of the sum due, the Contractor shall file its protest in writing with the County, setting forth in detail all grounds alleged by it to justify an adjustment to the Construction Manager's final estimate. Failure to file a timely protest shall constitute a waiver and acceptance by the Contractor of the Construction Manager's estimate.

Notice of Completion and Acceptance of Contract.

Acceptance of the Work by the County and the recordation of a Notice of Completion shall be in the manner prescribed by law, provided that the Work shall then be fully and satisfactorily completed and the provisions of the Contract Documents fully and satisfactorily performed in all respects.

Certificate of Final Payment.

Within ten (10) days after the recordation of the Notice of Completion, the County shall present a certificate of final payment stating the entire balance found to be due the Contractor. The amount set forth in that certificate shall then be due and payable, less retentions due to stop notices.

Approval of Final Payment.

Following receipt of the certificate of final payment by the County, the County shall authorize final payment to the Contractor in the sum specified on the certificate of final payment, subject to retentions for stop notices as provided in Article 14. Final payment shall be made within sixty (60) days after recordation of the Notice of Completion and in accordance with Public Contract Code Section 7107.

Withholding for Stop Notices.

The County may, in its sole discretion, and at any time, withhold from the Contractor any unpaid claims alleged in Stop Notices filed pursuant to Civil Code Section 3179 et seq. The County reserves all remedies it may have in the event of a stop notice dispute. The basic standard to determine a sufficient withholding in the event of a Stop Notice shall be one hundred fifty percent (150%) of the total of all stop notices filed; provided, however, the County reserves the right to withhold different or greater sums in its discretion.

Non-Waiver.

Neither acceptance of, nor payment for, the Work or any part thereof, nor any extension of time, nor any possession taken by County shall operate as a waiver of any of the provisions of this Contract, nor shall a waiver of any breach of this Contract be held to be a waiver of any other or subsequent breach. In addition, recordation of a Notice of Completion shall not be deemed an acceptance of latent defects, nor shall it constitute a waiver of any of the provisions of this Agreement.

- 9.8.3 Final completion of the Work is materially delayed through no fault of the Contractor or by the issuance of Change Orders affecting final completion, and the Construction Manager so confirms, the County shall, upon application by the Contractor and certification by the Construction Manager and without terminating the Contract, make payment of the balance due for that portion of the Work fully completed and accepted. If the remaining balance for Work not fully completed or corrected is less than the retainage stipulated in the Contract Documents, and if bonds have been furnished as provided in Paragraph 7.5, the written consent of the surety to the payment of the balance due for that portion of the Work fully completed and accepted shall be submitted by the Contractor to the Construction Manager prior to certification of such payment. Such payment shall be made under the Terms and Conditions governing final payments, except that it shall not constitute a waiver of claims. AIA Documents G707, Consent of Surety Company to Final Payment or if appropriate G707-A, Consent of Surety to Reduction in or Partial Release of Retainage, shall be used.
- 9.8.4 The acceptance of final payment shall, after the Date of Completion of the Project, constitute a waiver of all claims by the Contractor.
- 9.8.5 All provisions of the Agreement, including without limitation those establishing obligations and procedures, shall remain in full force and effect notwithstanding the making or acceptance of final payment.

ARTICLE 10
PROTECTION OF PERSONS AND PROPERTY

10.1 SAFETY PRECAUTIONS AND PROGRAMS

- 10.1.1 The Contractor shall be responsible for initiating, maintaining and supervising all safety precautions and programs in connection with the Work. The responsibility for maintaining a safe working site shall be the Contractor's, and the County and Construction Manager undertake no obligation to suspend the work or notify the Contractor of any hazardous conditions or

noncompliance with safety laws.

10.2 SAFETY OF PERSONS AND PROPERTY

10.2.1 The Contractor shall take all reasonable precautions for the safety of, and shall provide all reasonable protection to prevent damage, injury or loss to:

- .1 all employees on the Work and all other persons who may be affected thereby;
- .2 all the work and all materials and equipment to be incorporated therein, whether in storage or off the site, under the care, custody or control of the Contractor or any of the Contractor's Subcontractors or Sub-subcontractors;
- .3 other property at the site or adjacent thereto, including trees, shrubs, lawns, walks, pavements, roadways, structures and utilities not designated for removal, relocation or replacement in the course of construction; and
- .4 the work of the County or other separate contractors.

10.2.2 The Contractor shall give all notices and comply with all applicable laws, ordinances, rules, regulations and lawful orders of any public authority bearing on the safety of persons or property or their protection from damage, injury or loss.

10.2.3 The Contractor shall erect and maintain, as required by existing conditions and the progress of the Work, all reasonable safeguards for safety and protection, including posting danger signs and other warnings against hazards, promulgating safety regulations and notifying County and users of adjacent facilities. The Contractor shall enforce any instructions from the Construction Manager or County regarding placement of signs, fires, danger signals, barricades, radios, noise and smoking.

10.2.4 When the use or storage of explosives or other hazardous materials or equipment is necessary for the execution of the Work, the Contractor shall exercise the utmost care and shall carry on such activities under the supervision of properly qualified personnel.

10.2.5 The Contractor shall promptly remedy all damage or loss to any property referred to in Clauses 10.2.1.2. and 10.2.1.3 caused in whole or in part by the Contractor, any Subcontractor, any Sub-subcontractor, anyone directly or indirectly employed by any of them, or any one for whose acts any of them may be liable, and for which the Contractor is responsible under Clauses 10.2.1.2 and 10.2.1.3, except damage or loss attributable solely to the acts or omissions of the County, the Construction Manager, or anyone directly or indirectly employed by any of them, or by anyone for whose acts any of them may be liable, and not attributable to the fault or negligence of the Contractor. The foregoing obligations of the Contractor are in addition to the Contractor's obligations under Paragraph 4.17.

10.2.6 The Contractor shall designate a responsible member of the Contractor's organization at the site whose duty shall be the prevention of accidents. This person shall be the Contractor's superintendent unless otherwise designated by the Contractor in writing to the County and the Construction Manager.

10.2.7 The Contractor shall not load or permit any part of the Work to be loaded so as to endanger its safety.

10.2.8 Traffic Signs and Traffic Control

Existing signs, lights, traffic signals, control boxes, hydrants, meters, and other similar items occurring

within the street or sidewalk areas shall be kept free of obstructions and accessible at all times. All such items shall be protected from the Contractor's operations and shall not be obliterated or obscured by its equipment or materials.

Should it be necessary to cover up, move, or alter such items, this shall be done only with permission of the authorities having jurisdiction over the items involved.

Should it be necessary to block a street or sidewalk, the Contractor shall first notify the Construction Manager and the police and fire departments and other agencies with jurisdiction, and shall comply with their instructions, including scheduling limitations.

10.2.9 Security of the Site.

The Contractor's attention is directed to Specifications Section 01500 (if applicable) regarding requirements for fencing the Site, gates, and screening. The Contractor's attention is further directed to the security requirements in the Construction Administrative Procedures Manual.

10.2.10 Removal of Barricades.

Upon completion of the Work, the Contractor shall remove from the site all materials used for barricades, temporary scaffolding, or any other temporary uses.

10.2.11 Protection of Adjacent Property; Notices.

In addition to any requirements imposed by law, the Contractor shall shore up, brace, underpin, and protect as may be necessary all foundations and other parts of all existing structures on the Site or adjacent to the Site which are in any way affected by the excavations or other operations connected with the completion of the Work.

Prior to excavation, the Contractor shall notify all public utilities and governmental agencies of the work proposed, and shall ascertain from them the exact location of their utilities.

Prior to commencing any work which in any way affects adjoining or adjacent land or buildings thereon, or public utilities, the Contractor shall notify the Construction Manager, who will send the County and occupants thereof a notice, which specifies the type of work to be done, the schedule of the work, the impacts expected from the work and the protective measures being taken by the Contractor. The notice shall also specify that any person receiving notice who has questions regarding it may contact the Construction Manager.

Whenever any notice is required to be given to any adjoining or adjacent landowner, utility, governmental agency or other party before commencement of any work, the notice shall be given by the Contractor at least seven days in advance of the work, or longer if required by law or regulation, with a copy delivered to the Construction Manager.

The Contractor shall, at the written instruction of the Construction Manager, meet with any recipient of such notice to explain and discuss the proposed work.

10.2.12 Fire Protection.

The Contractor shall take all steps necessary to protect all structures from fires and sparks originating from the Work, shall comply with all laws and regulations regarding fire protection, and shall comply with all instructions of the fire department with jurisdiction.

The Contractor shall notify the Construction Manager and the fire department in writing at least seventy-two (72) hours prior to disconnection of either water or electrical service to the site, and shall comply with the fire department's instructions regarding fire safety.

10.2.13 Repairs or Replacement.

Any damage to existing conditions, or to any other improvement or property above or below the surface of the ground, whether private or public, arising from performance of this Contract shall be repaired within forty-eight(48) hours by the Contractor without expense to the County, unless disruption of existing facility operations or creation of a safety hazard has occurred, in which case damage will be corrected immediately.

If, in the opinion of the Architect, the best interest of the County requires that repairs be made prior to the execution of any further work, the Construction Manager will so notify the Contractor who shall delay or discontinue that part of the Work until the necessary repair has been made. Such delay shall not be considered unavoidable and no extension of the Contract Time will be granted therefore.

Upon the failure of the Contractor to comply with any such order, or upon the Contractor's failure to make immediate emergency repairs which are necessary to protect the Work, the County shall do that work itself as is necessary to protect life and property, in its sole discretion, and deduct the total cost of such work from the next progress payment. No prior notice to the Contractor shall be necessary for the County to take this action.

10.3 **EMERGENCIES**

10.3.1 In any emergency affecting the safety of persons or property, including adjoining property, the Contractor shall act, at the Contractor's discretion, to prevent threatened damage, injury or loss. The Contractor shall immediately notify the Construction Manager of such actions. Any costs to the Contractor for expenditures or time shall be borne by the Contractor.

ARTICLE 11
INSURANCE

11.1 **CONTRACTOR'S INSURANCE.**

Bidders' and their subcontractors 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 and forfeits its Bid Bond.

Contractor and subcontractors shall provide and maintain insurance for the duration of the warranty period against claims for injuries to persons and damage to property, which may arise from, or in connection with, performance under the Agreement by the CONTRACTOR, its agents, representatives, employees or subcontractors, if applicable.

A. Minimum Scope & Limits of Insurance

- 1) Coverage at least as broad as Commercial General Liability, insurance Services Office Commercial General Liability coverage occurrence form GC 00 01, with limits no less than \$2,000,000 per occurrence including products and completed operations, property damage, bodily injury and personal & advertising injury. If a general aggregate limit applies, either the general aggregate limit shall apply separately to this project/location (ISO CG 25 03 or 25 04) or the general aggregate limit shall be twice the required occurrence limit.

- 2) Automobile Liability Insurance of \$1,000,000 per occurrence for bodily injury and property damage covering any auto. If the annual aggregate applies it must be no less than \$2,000,000.
- 3) Workers' Compensation Insurance as required by the State of California, with Statutory Limits, and Employer's Liability Insurance with limit of no less than \$1,000,000 per accident for bodily injury or disease.
- 4) Builders Risk. (County shall be named loss payee as its interest may appear)
 - a. All Risk (Special Perils) covering completed value of the project with no coinsurance penalty provision.
 - b. Professional Liability of \$1,000,000 per occurrence or claim for design and build.
 - c. Contractors Pollution Legal Liability and/or Asbestos Legal Liability and/or errors and omissions of \$1,000,000 each occurrence with \$2,000,000 policy aggregate.

B. Specific Provisions of the Certificate

1. If any of the required insurance is written on a claims made form, the retroactive date must be before the date of the contract or the beginning of the contract work and must be maintained and evidence of insurance must be provided for at least five (5) years after completion of the contract work.
2. The General Liability and Automobile Liability policies are to be endorsed to contain the following provisions:
 - a. *The COUNTY, its officers, agents, officials, employees and volunteers are to be covered as additional insureds as respects: liability arising out of work or operations performed by or on behalf of the Contractor; or automobiles owned, leased, hired or borrowed by the CONTRACTOR.*
 - b. *For any claims related to this project, the CONTRACTOR's insurance coverage shall be primary insurance as respects the COUNTY, its officers, agents, officials, employees and volunteers. Any insurance or self-insurance maintained by the COUNTY, its officers, agents, officials, employees or volunteers shall be excess of the CONTRACTOR's insurance and shall not contribute with it.*
 - c. *Each insurance policy required by this agreement shall be endorsed to state that coverage shall not be canceled by either party, except after thirty (30) days prior written notice has been provided to the COUNTY.*
 - d. CONTRACTOR hereby agrees to waive rights of subrogation which any insurer of Contractor may acquire from Contractor by virtue of the payment of any loss. Contractor agrees to obtain any endorsement that may be necessary to affect this waiver of subrogation.
3. The Workers' Compensation policy shall be endorsed with a waiver of subrogation in favor of the COUNTY for all work performed by the CONTRACTOR, its employees, agents and subcontractors. CONTRACTOR waives all rights against the COUNTY and its officers, agents, officials, employees and volunteers for recovery of damages to the extent these damages are covered by the workers compensation and employers liability.

- C. Deductibles and Self-Insured Retentions
Self-insured retentions must be declared and the COUNTY Risk Manager must approve any deductible or self-insured retention that exceeds \$100,000.
- D. Acceptability of Insurance
Insurance must be placed with insurers with a current rating given by A.M. Best and Company of no less than A-:VII and a Standard & Poor's Rating (if rated) of at least BBB and from a company approved by the Department of Insurance to conduct business in California. Any waiver of these standards is subject to approval by the County Risk Manager
- E. Verification of Coverage
Prior to approval of this Agreement by the COUNTY, the CONTRACTOR shall file with the Tulare County Board of Supervisors, certificates of insurance with original endorsements effecting coverage in a form acceptable to the COUNTY. Endorsements must be signed by persons authorized to bind coverage on behalf of the insurer. The COUNTY reserves the right to require certified copies of all required insurance policies at any time.

11.1.2 ADDITIONAL CONSTRUCTION INSURANCE REQUIREMENTS:

- a. Payment Bond: For public works projects of more than \$25,000 a "payment bond" is required in the full amount of the Contract price, and shall insure to the benefit of persons performing labor or furnishing materials in connection with the Work of the Contract. This bond shall be maintained in full force and effect until all work under the Contract is completed and accepted by the COUNTY, or until all claims for materials and labor have been paid, whichever is longer.
- b. Performance Bond: For public works projects of more than \$25,000 a "performance bond" is required in the full amount of the Contract price and shall insure the faithful performance by Contractor of all work under the Contract. It shall also insure the replacing of, or making acceptable, any defective materials or faulty workmanship.
- c. Acceptability of Surety: Only California admitted sureties with current AM Best Rating of no less than VII.

ARTICLE 12
CHANGES IN THE WORK

12.1 **CHANGE ORDERS**

- 12.1.1 Definition: A Change Order is a written order to the Contractor signed to show the agreement of the County, the Contractor, the Architect, and the Construction Manager issued after execution of the Contract, authorizing a change in the Work or an adjustment in the Contract Sum or the Contract Time. The Contract Sum and the Contract Time shall be changed only by Change Order. A Change Order signed by the Contractor indicates the Contractor's agreement therewith, including the adjustment in the Contract Sum or the Contract Time, for full and final settlement of all costs (direct, indirect and overhead) related to the Work authorized by the Change Order.
- 12.1.2 Subject to legal requirements relating to competitive bidding, the County, without invalidating the Contract, may order changes in the Work within the general scope of the Contract consisting of additions, deletion or other revisions, the Contract Sum and Contract Time being adjusted accordingly. All such changes in the Work shall be authorized by Change Order, and shall be performed under the applicable conditions of the Contract Documents.

PCO/Work Orders.

Changes also may be made pursuant to a PCO/Work Order, which shall direct a change in the Work and state a proposed basis for adjustment, if any, in the Contract Sum or Contract Time, or both. A PCO/Work Order shall be used in the absence of total agreement on the terms of a Change Order, or when time does not permit processing of a Change Order prior to implementation of the change. Work completed under a PCO/Work Order not yet converted to a Change Order may be billed on progress billings only to an amount that does not cause the total billing to exceed eighty-five percent (85%) of contract value as modified by approved change orders.

Upon receipt of a PCO/Work Order, the Contractor shall promptly proceed with the change in the Work involved and advise the Construction Manager within five (5) calendar days of the Contractor's agreement or disagreement with the method, if any, provided in the PCO/Work Order for determining the proposed adjustment in the Contract Sum or Contract Time.

Failure to respond to and return a PCO/Work Order to the County within five (5) days indicates the Contractor's agreement therewith, including adjustment in Contract Sum and Contract Time or the method for determining them. Such agreement shall be effective immediately and shall be recorded as a Change Order.

Costs mean an itemized breakdown of all labor (by crafts), materials, sales taxes, large equipment rentals, etc., for each portion of the Work which comprises the change order including any subcontractor's itemized breakdown.

The Contractor's combined overhead and profit for work performed by its own forces shall be fifteen percent (15%) of the costs. If the changed work is performed by a Subcontractor, the Subcontractor shall also be entitled to an allowance of fifteen percent (15%) of its labor costs for overhead and profit, and fifteen percent (15%) of its material costs. The Contractor shall be allowed to mark-up the Subcontractor's price five (5%) for its overhead and profit. Cumulative total markup for all tiers of contractors and subcontractors shall not exceed twenty percent (20%).

The cost or credit to the County resulting from a change in the Work shall be determined in one or more of the following ways:

- .1 by mutual acceptance of a lump sum properly itemized and supported by sufficient substantiating data to permit evaluation;
- .2 by unit prices stated in the Contract Documents or subsequently agreed upon;
- .3 by cost to be determined in a manner agreed upon by the parties and a mutually acceptable fixed or percentage fee; or
- .4 by the method provided in Subparagraph 12.1.3.1 and 12.1.3.2.
- .5 A "cost plus" adjustment subject to the following limitations:

12.1.2.5.1 Record Keeping. In the event that the pricing method selected is the "cost plus" method described above, the Contractor shall keep and present daily, in such form as the Construction Manager may prescribe, an itemized accounting together with appropriate supporting data of the labor, materials, and equipment used during that day. All labor shall be recorded on separate time sheets clearly identified with the PCO/WO number and scope of extra work involved. These time sheets shall be signed daily by the Inspector or the Construction Manager. No costs will be allowed for time not recorded and signed the same day the work takes place. The Contractor

and the Construction Manager shall discuss and attempt to resolve any disputes concerning the Contractor's daily records at the time the report is submitted.

12.1.2.5.2 Reconciliation. The Contractor shall on a monthly basis accompanying the progress payment request submit a reconciliation for all work performed under a cost plus PCO during the period of the progress payment. A final reconciliation shall be submitted within thirty (30) days after the work of the PCO is completed. The reconciliation shall recap all costs and appropriate markups for the period. No costs will be allowed for work not included in a reconciliation within the time periods specified.

12.1.3 If none of the methods set forth in Clauses 12.1.2.1, 12.1.2.2, or 12.1.2.3 is agreed upon, the Contractor, provided that a written order signed by the County is received, shall promptly proceed with the Work involved. The cost of such Work shall then be determined by the Construction Manager, on the basis of reasonable expenditures or savings of those performing the Work attributable to the change, including, in the case of an increase in the Contract Sum, a reasonable allowance for overhead and profit as specified below. In such case, and also under Clause 12.1.2.3 above, the Contractor shall keep and present, in such form as the County or the Construction Manager may prescribe, an itemized accounting of actual cost together with appropriate supporting data for inclusion in a Change Order. Unless otherwise provided in the Contract Documents, cost shall be limited to the following: cost of materials, including sales tax and cost of delivery; cost of labor including social security, Medicare and unemployment insurance and fringe benefits required pursuant to Section 15.9; workers' or workmen's compensation insurance; rental value of equipment and machinery exclusive of small tools, whether rented from the Contractor or others; and the additional costs of supervision as follows:

12.1.3.1 Costs of first line supervision labor, including labor burden as described in 12.1.3. "First Line Supervision" shall mean a working foreman or lead craft worker other than the project superintendent;

12.1.3.2 Actual cost of the project superintendent associated with any period of compensable delay caused by issuance of the change order. In the absence of a compensable delay, all of the project superintendent's time is considered to have been paid for as part of the overhead;

Upon determination of cost by the Construction Manager, payments to the Contractor may be made based on the Construction Manager's approval of a Project Certificate for Payment. If the Contractor disputes the Construction Manager's cost determination, the Contractor may initiate a claim per the claims and disputes resolution provisions of Paragraph 7.4.

"Overhead" shall include the following: Preparation of all paperwork related to changes in the Work, including field review, estimating and cost breakdown; coordination and supervision, both office and field, including the project superintendent; vehicles including gas and maintenance; small tools, incidentals and consumables; engineering, detailing, and revisions to shop drawings and as-built drawings; general office expense; extended and unabsorbed home office overhead; warranty; costs of bonds, liability insurance, and all taxes; and all other expenses not specifically included in Section 12.1.3 above.

The amount or credit to be allowed by the Contractor or subcontractor to the County, as confirmed by the Construction Manager, for any deletion or change that results in a decrease in the Contract Sum will be the amount of the actual net cost plus five percent (5%) for overhead and profit. When both additions and credits covering related Work or substitutions are involved in any one change, the allowance for overhead and profit shall be figured on the basis of the net increase or decrease, if any, with respect to that change.

- 12.1.4 Variation in Estimated Quantities: If unit prices are stated in the Contract Documents or subsequently agreed upon, and if the quantities originally contemplated as so changed in a proposed Change Order, that application of the agreed unit prices to the quantities of Work proposed will cause substantial inequity to the County or the Contractor, the applicable unit prices shall be equitably adjusted.

Effect on Sureties.

All changes authorized by the Contract Documents may be made without notice to or consent of the sureties on the Contract bonds, and shall not reduce the sureties' liability on the bonds.

The County reserves the right to require additional payment or performance bonds to secure a change order.

12.2 **CONCEALED CONDITIONS**

- 12.2.1 If this Contract requires the digging of trenches or other excavations that extend deeper than four feet below the existing surface, the following provision shall apply to those trenches or excavations:

12.2.1.1 In the event that any of the following described conditions is suspected to exist in the trench or excavation, the Contractor shall promptly, and before the condition is disturbed, notify the Construction Manager, in writing, of any:

- a. Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code, which is required to be removed to a Class I, Class II, or Class III disposal site in accordance with provisions of existing law.
- b. Subsurface or latent physical conditions at the site differing materially from those indicated.
- c. Unknown physical conditions at the site of any unusual nature, differing materially from those ordinarily encountered and generally recognized as inherent in work of the character provided for in the Contract Documents.

12.2.1.2 Upon receipt of notice from the Contractor, the Construction Manager, the County and the Architect shall promptly investigate the conditions, and if it is determined that the conditions do materially so differ or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the Work, shall issue a Change Order or PCO/Work Order under the procedures described in 12.3.

12.2.1.3 In the event that a dispute arises between the County and the Contractor as to whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the Work, the Contractor shall not be excused from any scheduled completion date provided for by the Contract Documents, but shall proceed with all work to be performed under the Contract Documents. The Contractor shall retain any and all rights provided either by the Contract Documents or by law which pertain to the resolution of disputes and protests between the contracting parties.

12.3 **REQUEST FOR EQUITABLE ADJUSTMENT**

- 12.3.1 If the Contractor considers a Request for Equitable Adjustment is justified for an increase in the Contract Sum or Time, the Contractor shall promptly, upon first observance of the condition giving rise to the request, provide the Construction Manager and County written notice of such condition and circumstance. This notice shall be given by the Contractor before proceeding to execute the Work, except in emergency endangering life or property in which case the Contractor shall proceed in accordance with Paragraph 10.3. No such request shall be valid unless so made. Any change in the Contract Sum or Time resulting from such request for equitable adjustment shall be authorized by Change Order.
- 12.3.2 If the Contractor requests that additional cost or time is involved because of, but not limited to, (1) any written interpretation pursuant to Subparagraph 2.2.8, (2) any order by the County to stop the Work pursuant to Paragraph 3.3 where the Contractor was not at fault, or any such order by the Construction Manager as the County's agent, (3) any written order for a minor change in the Work issued pursuant to Paragraph 12.4, the Contractor shall make such request for equitable adjustment as provided in Subparagraph 12.3.1.
- 12.4 **MINOR CHANGES IN THE WORK**
- 12.4.1 The Construction Manager will have authority to order minor changes in the Work not involving an adjustment in the Contract Sum or extension of the Contract Time and not inconsistent with the intent of the Contract Documents. Such changes shall be enacted by written order issued through the Construction Manager, and shall be binding on the County and the Contractor. The Contractor shall carry out such written orders promptly.

ARTICLE 13
UNCOVERING AND CORRECTION OF WORK

- 13.1 **UNCOVERING OF WORK**
- 13.1.1 If any portion of the Work should be covered contrary to the request of the Construction Manager or to requirements specifically expressed in the Contract Documents, it must, if required in writing by the Construction Manager, be uncovered for their observation and shall be replaced at the Contractor's expense.
- 13.1.2 If any other portion of the Work has been covered which the Construction Manager has not specifically requested to observe prior to it's being covered, the Construction Manager may request to see such Work and it shall be uncovered by the Contractor. If such Work be found in accordance with the Contract Documents, the cost of uncovering and replacement shall, by appropriate Change Order, be charged to the County. If such Work be found not in accordance with the Contract Documents, the Contractor shall pay such costs unless it be found that this condition was caused by the County or a separate contractor as provided in Article 6 in which event the County shall be responsible for the payment of such costs.
- 13.2 **CORRECTION OF WORK**
- The County shall have the right to reject materials and workmanship which are determined by the Construction Manager, the Architect, or the Inspector to be defective or fail to comply with the Contract Documents. Rejected workmanship shall be corrected satisfactorily, and rejected materials shall be removed from the premises and replaced, all without cost to the County.
- 13.2.1 The Contractor shall correct, within seven (7) days, all Work rejected by the Construction Manager as defective or as failing to conform to the Contract Documents whether observed before or after Completion of the Work and whether or not fabricated, installed or completed. The Contractor shall bear all costs of correcting such rejected Work, including compensation for

the Construction Manager's additional services made necessary thereby.

- 13.2.2 If, within three (3) years after the recordation of the Notice of Completion of the Work or designated portion thereof, or within three (3) years after acceptance by the County of designated equipment, or within such longer period of time as may be prescribed by the terms of any applicable special warranty required by the Contract Documents, any of the Work to be found to be defective or not in accordance with the Contract Documents, the Contractor shall correct it promptly after receipt of a written notice from the County to do so unless the County has previously given the Contractor a written acceptance of such condition. This obligation shall survive both final payment for the Work or designated portion thereof and termination of the Contract. The County shall give such notice promptly after discovery of the condition.
- 13.2.3 The Contractor shall, at its sole expense, remove from the site all portions of the Work, which are defective or nonconforming and which have not been corrected under Subparagraphs 4.5.1, 13.2.1 and 13.2.2, unless removal is waived by the County.
- 13.2.4 If the Contractor fails to correct defective or nonconforming Work as provided in Subparagraphs 4.5.1, 13.2.1 and 13.2.2, the County may correct it in accordance with Paragraph 3.4.
- 13.2.5 If the Contractor does not proceed with the correction of such defective or nonconforming Work within a reasonable time fixed by written notice from the Construction Manager, the County may remove it and may store the materials or equipment at the expense of the Contractor. If the Contractor does not pay the cost of such removal and storage within ten days thereafter, the County may, upon ten additional days' written notice, sell such Work at auction or at private sale and shall account for the proceeds thereof, after deducting all the costs that should have been borne by the Contractor, including compensation for the Construction Manager, Architect or other Professional's additional services made necessary thereby. If such proceeds of sale do not cover all costs which the Contractor should have borne, the difference shall be charged to the Contractor and an appropriate Change Order shall be issued. If the payments then or thereafter due the Contractor are not sufficient to cover such amount, the Contractor shall pay the difference to the County.
- 13.2.6 The Contractor shall bear the cost of making good all work of the County or separate contractors destroyed or damaged by such correction or removal.
- 13.2.7 Nothing contained within Paragraph 13.2 (Correction of Work) shall be construed to establish a period of limitation with respect to any other obligation, which the Contractor might have under the Contract Documents, including Paragraph 4.5 hereof. The establishment of the time periods noted in Subparagraph 13.2.2, or such longer period of time as may be prescribed by law or by the terms of any warranty required by the Contract Documents, relates only to the specific obligation of the Contractor to correct the Work, and has no relationship to the time within which the Contractor's obligation to comply with the Contract Documents may be sought to be enforced, nor to the time within which proceedings may be commenced to establish the Contractor's liability with respect to the Contractor's obligations other than specifically to correct the Work.
- 13.3 **ACCEPTANCE OF DEFECTIVE OR NONCONFORMING WORK**
- 13.3.1 If the County prefers to accept defective or nonconforming Work, the County may do so instead of requiring its removal and correction, in which case a Change Order will be issued to reflect a reduction in the Contract Sum where appropriate and equitable. Such adjustment shall be effected whether or not final payment has been made.

ARTICLE 14
TERMINATION OF THE CONTRACT

14.1 TERMINATION BY THE CONTRACTOR

14.1.1 If the Work is stopped for a period of sixty (60) days under an order of any court or other public authority having jurisdiction, or as a result of an act of government such as a declaration of a national emergency making materials unavailable, through no act or fault of Contractor or a Subcontractor or any agents or employees or any other persons performing any of the Work under a contract with the Contractor, then the Contractor may, upon thirty (30) additional days' written notice to the County and the Architect, terminate the Contract and recover from the County payment for all work executed and for any proven loss sustained upon any materials, equipment, tools, construction equipment and machinery.

14.2 TERMINATION BY THE COUNTY

14.2.1 Termination by the County for Cause

If the Contractor is adjudged bankrupt, or makes a general assignment for the benefit of creditors, or if a receiver is appointed on account of the Contractor's insolvency, or stop notices are served upon the County, or if the Contractor persistently or repeatedly refuses or fails, except in cases for which extension of time is provided, to supply enough properly skilled workers or proper materials, or fails to make prompt payment to Subcontractors for materials or labor, or the Contractor or a subcontractor persistently disregards laws, ordinances, rules, regulations or orders of any public authority having jurisdiction, or persistently disregards instructions of the Construction Manager, Architect or County, or otherwise is guilty or a subcontractor is guilty of a substantial violation of a provision of the Contract Documents, or the Contractor fails to provide and keep in full force and effect all insurance required by Article 11, or fails to cause all subcontractors to so comply, and fails after written notice to commence and continue correction of such default, neglect or violation with diligence and promptness, the County upon certification by the Construction Manager that sufficient cause exists to justify such action, may, after an additional written notice and without prejudice to any other remedy the County may have, terminate the Contract.

Procedure for Termination for Cause.

Unless within seven (7) days of the delivery of such notice, the Contractor shall cease such violation and make satisfactory arrangements for a correction thereof, which arrangements are set forth in a written agreement signed by the Contractor and the Construction Manager, the Contractor's right to complete the Work shall cease and terminate.

In the event of any such termination, the County shall, immediately give written notice thereof to the surety and to the Contractor and the surety shall have the rights and obligations set forth in the performance bond. If the County is forced to take over the Work, it may prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of the Contractor, and the Contractor and its sureties shall be liable to the County for any excess costs, including management, supervision, and design support, occasioned thereby. In such event, the County may, without liability take possession of and utilize in completing the Work, the Contractor's materials, equipment, tools, construction equipment and machinery whether stored at the Site or elsewhere, thereon owned by the Contractor and may finish the Work by whatever methods the County may deem expedient. Whenever the Contractor's right to proceed is terminated, the Contractor shall not be entitled to receive any further payment until the Work is finished.

- 14.2.2 If the unpaid balance of the Contract Sum exceeds all direct and indirect costs of finishing the Work, including compensation for the Construction Manager's additional services made necessary thereby, Contractor will only be paid for its actual unpaid costs from such excess. If such costs exceed the unpaid balance, the Contractor shall pay the difference to the County. The amount to be paid to the Contractor or to the County, as the case may be, shall be certified by the Construction Manager, upon application, in the manner provided in Paragraph 9.4 and this obligation for payment shall survive the termination of the Contract.
- 14.2.3 Suspension of Performance: Independent of any right to terminate the Agreement, the authorized representative of County for which CONTRACTOR'S services are to be performed, may immediately suspend performance by CONTRACTOR, in whole or in part, in response to health, safety or financial emergency, or a failure or refusal by CONTRACTOR to comply with the provisions of the Agreement, until such time as the cause for suspension is resolved, or a notice of termination becomes effective.

County will have the right to terminate the Agreement without cause by giving thirty (30) days prior written notice of intention to terminate pursuant to this provision, specifying the date of termination. County will pay to the CONTRACTOR the compensation earned for conforming, non-defective, work performed and not previously paid for to the date of termination. County will not pay Contractor for lost anticipated profits or other economic loss. The payment of such compensation is subject to the restrictions on payment of compensation otherwise provided in the Agreement, and is conditioned upon receipt from CONTRACTOR of any and all plans, specifications, records, photographs, logs, and estimates, and other documents pertaining to the Project.

No sanctions will be imposed.

In connection with any termination for convenience, Contractor shall allow County, Construction Manager or any authorized representative(s) to inspect, audit, or reproduce any records to the extent necessary for County or Construction Manager to evaluate and verify the costs incurred by Contractor in performing the Work, including direct and indirect costs such as overhead allocations. Contractor will make this material available upon forty-eight (48) hours' written notice from County or Construction Manager. County and Construction Manager may inspect and copy, from time to time and at reasonable times and places, any and all information, materials and data of every kind and character (hard copy, as well as computer readable data if it exists), including without limitation, books, papers, documents, subscriptions, recordings, estimates, price quotations, agreements, purchase orders, leases, contracts, commitments, arrangements, notes, daily diaries, superintendent reports, drawings, receipts, vouchers, monthly, quarterly, yearly or other financial statements, and any and all other information or documentation that may, in the judgment of County or Construction Manager, have any bearing on or pertain to any matters, rights, duties, or obligations under or covered by the Contract Documents. Such records shall include but not be limited to, the following: accounting records, payroll records, job cost reports, job cost history, margin analysis, written policies and procedures, subcontract files (contracts, correspondence, change order files, including documentation covering negotiated settlements), backcharge logs and supporting documentation, general ledger entries detailing cash and trade discounts earned, insurance rebates and dividends, and any other documents customarily maintained by contractors performing work on public works projects or that County or Construction Manager otherwise deem necessary to substantiate charges related to a Termination.

If this Contract is terminated for default under Article 14 and if it is later determined that the default was wrongful, such default termination automatically shall be converted to and treated as a termination for convenience under this Section. In such event, Contractor shall be entitled to receive only the amounts payable under this Section, and Contractor specifically waives any

claim for any other amounts or damages, including any claim for consequential damages or lost profits.

ARTICLE 15

ADDITIONAL INSTRUCTIONS

15.1 SUBSTITUTION OF MATERIALS

15.1.1 When a specific manufacturer, trade name or material is specified or indicated, it is to establish a standard of quality and shall not be constructed as limiting competition. Materials, products, processes, or articles indicated are specified by the name brand of the manufacturer or by patent or proprietary names, shall be deemed to be followed by the words "or equal". If the Contractor desires to use material other than that specified it shall request approval of such substitution, in writing to the County's Representative. Requests for substitutions shall be in the hands of the County's Representative no later than fourteen (14) calendar days prior to the date in which addenda will be issued for pre-bid requests per section 00100 Instructions to bidders. Materials found acceptable will be approved by a duly authorized Addendum. Also per section 00100, if a bidder submits non-approved material substitutions, they assume the risk that said substitution may not be approved. Approval of non-approved material substitutions will be made post-bid through the due diligence process. For post-bid substitutions requests, data substantiating the request may be submitted up to thirty-five (35) days following the Notice of Award. Materials found acceptable will be approved by duly authorized Change Order. It is the intent of this article to comply with Public Contracts Code Section 3400.

If the Contractor desires to use material other than that specified, it shall request approval of such substitution, in writing, to the Construction Manager. Such application constitutes a certification that the Contractor:

- A. Has investigated proposed product and determined that it meets or exceeds, in all respects, specified product.
- B. Will provide the same warranty for equal as for specified product.
- C. Will coordinate installation and make other changes which may be required for work to be complete in all respects.
- D. Waives claims for additional costs which may subsequently become apparent.

The Architect then will determine whether or not the proposed material is equal in quality and utility to the material specified, and its decision shall be final.

Requests for equal materials will only be considered when offered by the Contractor as required by this article.

Requests for substitutions shall be in the hands of the Construction Manager no later than seven (7) calendar days prior to the date on which a decision is needed. Data substantiating the request may be submitted up to fifteen (15) days following the Notice of Award. Materials found acceptable will be approved by a duly authorized Addendum or Change Order.

15.1.2 Submittals for approval of substitute materials shall contain sufficient information, descriptive brochures, drawings, samples or other data as is necessary to provide direct comparison to the specified materials. Each submittal shall be well marked and identified as to types and kind of the items being submitted for approval. It is the sole responsibility of the Contractor to submit

complete descriptive and technical information so the Architect can make proper appraisal. Lack of proper information will be sufficient cause for rejection. Reference to catalogs that the Architect may or may not have will not be acceptable.

15.1.3 The Architect's review for approval is for quality of visual appearance. It is the Contractor's responsibility to confirm and correlate all quantities and dimensions and coordinate with all trades whose work may be affected by the requested substitution.

15.1.4 Substitutions.

Unless otherwise provided in the technical specifications, the Contractor may make proposals for substitutions to materials and/or processes shown or specified only under one or more of the following conditions:

- A. Unavailability: If the specified product or an equal is no longer available in the marketplace.
- B. Delay: If obtaining the specified product or an equal will delay completion of the Work through no fault of the Contractor.
- C. Better material system or process: If a better material system or process is available at no additional cost.
- D. Savings: If a material which meets all of the performance requirements of the specified material is available at a savings to the County.

A proposal for substitution shall include all information required by the Architect to evaluate the substitute material or process. All substitutions shall be submitted for approval. Such proposal constitutes a certification that the Contractor:

- A. Has investigated the proposed product and determined that it meets or exceeds the performance requirements of the specified product.
- B. Will provide the same or better warranty for substitution as for specified product.
- C. Will coordinate installation and make other changes, including work of other Contractors, which may be required for the work to be complete in all respects at no additional cost to the County.

Effect of Approval of Substitution.

If the substitution is approved, the Contractor shall be solely and directly responsible for setting approved substituted materials and/or equipment into the available space, and for the proper operation of the substituted equipment with all other equipment with which it may be associated, all in a manner acceptable to the County.

No time extensions shall be granted on account of a substitution. The Contract Sum shall be adjusted by the price difference between the approved substitution and the originally specified item.

Time for Proposing Substitution; Decision.

Substitution proposals will not be considered prior to bidding. All requests for substitutions shall be made within the same time requirement for initial submittals. Failure to timely submit a substitution request shall constitute a waiver by the Contractor and an acceptance of the specified materials. Late submittals may be considered only when the Construction Manager consents in writing, and the County's best interests so require.

The Construction Manager and the Architect shall evaluate a timely substitution request, and shall approve, deny, approve with conditions, or initiate the procedure for a change order in response to the Contractor's request. This decision shall be final. If the proposed substitution is rejected, the Contractor shall provide the material originally specified. No time extensions will be granted in connection with substitution requests.

Failure by the Contractor to identify all deviations from the Contract Documents in its request for substitution shall render any County action taken thereon null and void. The Contractor shall bear all costs resulting from any error in the request for substitution.

Only one request for substitution will be considered for each product. When substitution is not accepted, specified product shall be provided.

Samples and Testing of Proposed Substitutions: Costs of Adapting to Work.

When the Construction Manager or Architect determines that samples and testing are required to evaluate a request for a substitution, the Construction Manager shall so advise the Contractor, and specify the materials or work to be sampled. The Contractor shall, at no cost to the County, provide samples as required by Article 7 dealing with samples and testing, or the Technical Specifications.

The Contractor shall bear all costs of sampling and testing required to decide a request for substitution, and if a substitution is accepted, the Contractor shall bear all costs associated therewith, including the cost of the Construction Manager's, Architect's and/or Architect's services required to adapt the substitution to the design to the complete satisfaction of the County, and all costs of mechanical, electrical, structural, or other changes needed to adapt the substitution to the Work.

15.2 REFERENCE TO STANDARDS

15.2.1 Reference to known standards shall mean and intend the latest edition or amendment, in effect on the date of the Bid, unless specifically indicated otherwise, and to such portions of it that relate and apply directly to the material or installation called for on the project.

15.2.2 Where material is specified solely by reference to standard specifications, the Contractor shall, if requested by the Construction Manager, submit to the Construction Manager for its approval, data on all such material proposed to be incorporated into the Work of the Contractor listing the name and address of the vendor, the manufacturer or producer, and the trade or brand names of such materials.

The standard referred to, except as modified in the specifications, shall have full force and effect as though printed in these specifications. These standards are not furnished to the bidder for the reason that the manufacturers and trades involved are assumed to be familiar with their requirements.

1. Where Federal Specifications are referred to as a measure of quality and standard, they refer to Federal Specifications established by the Procurement Division of the United States Government and are available from the Superintendent of Documents, U.S. Government Printing Office.
2. Where Federal Specification numbers are used, they refer to the latest edition including amendments thereto.
3. Where Commercial Standards (CS) or Product Standards (PS) are referred to as a measure of quality, standard, and method of fabrication, they refer to Commercial Standards and Product Standards issued by the U.S. Department of Commerce.

4. Where ASTM serial numbers are used, they refer to the latest tentative specifications, standard specifications, standard method or standard methods of testing, issued by the American Society for Testing Materials, unless specifically noted.

15.3 SPECIFICATIONS

- 15.3.1 The Specifications are organized into Divisions, Sections, and Trade headings based on the Construction Specifications Institute's 48-Division format and the Master format numbering system. This organization shall not control the Contractor in dividing the Work among Subcontractors or in establishing the extent of the Work to be performed by any trade. The Contractor shall be responsible for examining all sections of the Specifications for inter-related items of the Work, and for furnishing each item identified or specified.
- 15.3.2 No responsibility will be assumed by the County or the Construction Manager for omissions or duplications by the Contractor in the completion of the Contract due to any alleged error in the arrangement of the material in these Specifications nor shall any such segregation of work and materials operate to make the Construction Manager an arbiter in defining the limits to the agreements between the Contractor and its subcontractors or suppliers.
- 15.3.3 The misplacement, addition or omission of any letter, word or punctuation mark shall in no way damage the true spirit, intent or meaning of these Specifications.
- 15.3.4 The words "shown", "indicated", "noted", "scheduled" or words of that effect shall be understood to mean that reference is made to the Drawings accompanying these Specifications.
- 15.3.5 Where reference herein is made to colors or finishes "as selected", the reference is to the Construction Manager with concurrence by the County.

15.4 APPROVED APPLICATORS

- 15.4.1 Where specific instruction in these Specifications require that a particular product and/or materials be installed and/or applied by an "approved applicator" of the manufacturer, it shall be the Contractor's responsibility to insure that any subcontractors used for such work be approved applicators.

15.5 DELIVERY AND STORAGE OF MATERIALS

- 15.5.1 Deliver all manufactured materials in the original packages, containers or bundles (with the seals intact) bearing the name or identification mark of all manufacturers.
- 15.5.2 Deliver fabrications in as large assemblies as practicable and where specified to be shop-primed or shop-finished; they shall be packaged or crated as require to preserve such priming or finish intact and free from abrasion.
- 15.5.3 Store all materials in such manner as necessary to properly protect same from damage, as materials or equipment damage by handling, weather, dirt or from any other cause will not be acceptable.
- 15.5.4 Store materials off sidewalks, roadways, and underground services to cause no obstructions. The Contractor shall be responsible for protecting all material and equipment furnished under the Contract.

15.6 **WORKMANSHIP**

- 15.6.1 Where not more specifically described in any of the various Sections of these Specifications, workmanship shall conform to all of the methods and operations of best standards and accepted practices of the trade or trades involved, and shall include all items of fabrication, construction, or installation regularly furnished or required for completion (including any finish), and for successful operation as intended.
- 15.6.2 All work shall be executed by mechanics skilled in their respective lines of work.
- 15.6.3 When completed, all parts shall have been durably and substantially built and shall present a neat, workmanlike appearance.

15.7 **FINAL GUARANTEE**

- 15.7.1 The Contractor shall be held responsible for, and must make good any defects through faulty, improper, or inferior workmanship or materials, arising or discovered in any part of its work or structure, piping and appurtenances, within one (1) year after the filing of the Notice of Completion. The Performance Bond, furnished by the Contractor, shall cover such defects and protect the County against them.

15.8 **HOURS OF WORK**

- 15.8.1 Eight (8) hours of labor shall constitute a legal day's work upon all work done hereunder, and it is expressly stipulated that no worker employed at any time by the Contractor, or by a subcontractor under this Contract, upon the work, shall be required or permitted to work thereon more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week, except as provided in Section 1810-1815 inclusive, of the Labor Code of the State of California, all the provisions whereof are deemed to be incorporated herein as if fully set out; and it is further expressly stipulated that for each and every violation of said last named stipulation, said contractor shall forfeit, as a penalty to the County, twenty-five dollars (\$25.00) for each worker employed by the Contractor in the execution of this Contract, for each calendar day during which said worker is required or permitted to labor more than eight (8) hours in any one (1) calendar day and forty (40) hours in any one (1) calendar week in violation of the provisions of said section of the Labor Code.
- 15.8.2 The Contractor and each subcontractor shall also keep or cause to be kept, an accurate record showing the names and actual hours worked each calendar day and each calendar week by each worker employed by it in connection with the Work contemplated by the Agreement, which record shall be open at all reasonable hours to the inspection of the County or its officer or agents, and to the Division of Labor Law Enforcement of the Department of Industrial Relations, its deputies and agents.
- 15.8.3 Notwithstanding the above stipulations, pursuant to Section 1815 of the Labor Code, work performed by employees of contractors in excess of eight (8) hours per day and forty (40) hours during any one week shall be permitted upon the project upon compensation for all hours worked in excess of eight (8) hours per day at not less than one and one-half (1 1/2) times the basic rate of pay.
- 15.8.4 Whenever the Contractor arranges to work at night or any time when work is conducted other than the normal 40-hour week, or to vary the period during which work is carried on each day, it shall give the Construction Manager a minimum of forty-eight (48) hours notice so that inspection may be provided. Additional inspection costs incurred because of overtime or shift work shall be paid by the County. If this overtime work is necessitated by the Contractor's error or failure to perform,

the cost of inspection will be borne by the Contractor.

15.9 WAGE RATES

- 15.9.1 Pursuant to Section 1770-1780 of the Labor Code of the State of California, the Department of Industrial Relations has determined the general prevailing rate of per diem wages and rates for legal holidays and overtime in the locality in which this Work is to be performed, for each craft or type of worker or mechanic needed to execute the Contract. Said wage rates pursuant to Section 1773.2 of the Labor Code are on file with the General Services, 2637 W. Burrel Ave, Ste. 200, Visalia, CA and will be made available to any interested person upon request. They may also be obtained on the internet at www.dir.ca.gov/DLSR/pwd.html. Those prevailing wage rates hereby are incorporated in the Agreement and made a part hereof.
- 15.9.2 It shall be mandatory upon the Contractor to whom the Contract is awarded, and upon any subcontractor under it to pay not less than the said specified rates to all laborers, worker, and mechanics employed by them in the execution of the Contract, and to pay all laborers, workers and mechanics not less often than once weekly. The Contractor to whom the Contract is awarded shall post a copy of the determination of prevailing wages at the job site. The Contractor shall require all subcontractors to comply with Sections 1770-1780 of the Labor Code of the State of California and shall insert into every subcontract the requirements contained therein. The Contractor shall be responsible for compliance by each subcontractor with Labor Code Section 1776.
- 15.9.3 It is hereby further agreed that the Contractor shall forfeit to the County, as a penalty, fifty dollars (\$50.00) for each laborer, worker, or mechanic employed for each calendar day or portion thereof, who is paid less than the said stipulated rates for any work done under the Contract, by it or by any subcontractor under it. The difference between said stipulated rates and the amount paid to each worker for each calendar day or portion thereof for which each worker was paid less than said stipulated rate shall be paid to each worker by the Contractor. The Contractor, and each subcontractor, shall keep or cause to be kept an accurate 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 it or her in connection with the public work. The records shall be open at all reasonable hours to the inspection of the County, to its officers and agents, and to the Division of Labor Law Enforcement of the State Department of Industrial Relations, its deputies and agents. **In addition, the Contractor shall submit a certified copy of the payroll records of the Contractor and each subcontractor to the awarding body within seven (7) days after the payroll week ending date.**
- 15.9.4 In case it becomes necessary for the Contractor or any subcontractor to employ on the work under this Contract any person in a trade or occupation (except executive, supervisory, administrative, clerical or other non-manual workers as such) for which no minimum wage rate is specified, the Contractor shall immediately notify the County who will promptly, after consultation with the DIR, determine the prevailing rate for such additional trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment. The Contractor and all subcontractors shall pay each worker engaged in the specified work not less than those rates. Pending such determination, the wages may be assumed to be those in the applicable collective bargaining agreement, but no adjustment in the Contract Price shall be made if such assumption is incorrect.
- 15.9.5 As of January 1, 2015, no contractor or subcontractor may be listed on a bid proposal for a public works project (submitted on or after March 1, 2015) unless registered with the

Department of Industrial Relations pursuant to Labor Code § 1725.5 [with limited exceptions from this requirement for bid purposes only under Labor Code § 1771.1(a)]. No contractor or subcontractor may be awarded a contract for public work on a public works project (awarded on or after April 1, 2015) unless registered with the Department of Industrial Relations pursuant to Labor Code § 1725.5. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

According to sections 1770-1780 of the Labor Code of the State of California, the Director of the Department of Industrial Relations has determined the general prevailing rate of per diem wages in the locality for each craft or type of worker needed to execute the Contract.

The Contractor to whom the Contract is awarded and any subcontractor under it will pay all workers employed on the work at least the rates determined by the Director of the Department of Industrial Relations. Copies of the prevailing rate of per diem wages are on file with the Department of Industrial Relations, Division of Apprenticeship Standards, 455 Golden Gate Avenue 10th Floor, San Francisco, California 94102, and at the principal office of the County, and are available to any interested party on request.

According to Labor Code § 1775, the Contractor will, as a penalty to the County, forfeit not more than \$200.00 for each calendar day or portion of a day, for each worker paid less than the prevailing rates as determined by the director for the work or craft in which the worker is employed. The amount of this penalty will be determined by the California State Labor Commissioner and will be based on the consideration of the Contractor's failure to pay the correct rate as a good faith mistake, penalties assessed against the Contractor within the previous three years for failing to meet its prevailing wage obligations, or the Contractor's willful failure to pay the correct rates of prevailing wages.

According to Public Contract Code § 6109, with respect to subcontractors which are ineligible to perform work on public works projects according to Labor Code § 1777.1 or 1777.7:

1. The Contractor must not allow any such subcontractor to work on this project.
2. The Contractor must repay to the County any money paid to any such subcontractor allowed to work on this project.
3. The Contractor will pay the wages of the workers of any such subcontractor allowed to work on this project.

According to Labor Code § 1776, the Contractor and each subcontractor are required to keep or cause to be kept an accurate record showing the names and occupations of all laborers, workers and mechanics employed by it in connection with the execution of this Contract or any subcontracts, and showing also the actual per diem wage paid to each of such workers, which records will be open at all reasonable hours to inspection by the County, its officers and agents and to representatives of the Division of Labor Standards Enforcement of the State Department of Industrial Relations. The certified payroll records are required to be on forms provided by the Division of Labor Standards Enforcement or will contain the same information as the forms provided by the division.

15.10 APPLICATION OF HIGHEST STANDARDS AND REQUIREMENTS

- 15.10.1 Whenever two or more standards or requirements appear in these General Conditions or in any other part of the Contract Documents that form the Contract, the highest standard or requirement shall be applied and followed in the performance under this Contract.

15.11 **NONDISCRIMINATION IN EMPLOYMENT**

- 15.11.1 Federal and State Laws prohibit discrimination in employment. The California Fair Employment Practices Act (Labor Code section 1410 - 1433) prohibits discrimination in employment on the basis of race, religion, color, sex, physical handicap, medical condition, marital status, age, national origin or ancestry, and applies to all employers, employment agencies and labor organizations.
- 15.11.2 Title VII of the Federal Civil Rights Act of 1964 (42 U.S.C. sections 2000e - 2000e - 17) prohibits employment discrimination on the basis of race, color, sex, religion, or national origin, and applies to all employers that employ at least fifteen (15) workers during each working day in each of twenty (20) or more calendars weeks in the current or preceding year.
- 15.11.3 In addition to these two laws of general application, there are other Federal and State laws that prohibit employment discrimination in particular cases.
- 15.11.4 The County of Tulare is an Affirmative Action Employer and expects all of its contractors and suppliers to familiarize themselves with, and comply with, all applicable laws relating to employment discrimination.
- 15.11.5 To the extent required by law, the Contractor shall meet all requirements of law relating to the participation of minority, women, and disabled veteran business enterprise contracting goals, and shall comply with Public Contract Code section 10115 et seq. and all applicable regulations. Contractor further agrees that, when required, Contractor will ensure compliance by all subcontractors and will complete all forms required by all agencies exercising jurisdiction over the project.

15.12 **APPRENTICES**

- 15.12.1 Pursuant to Sections 1770-1780 of the Labor Code of the State of California, the Department of Industrial Relations has determined the general prevailing rate of per diem wages in the locality for each craft or type of worker needed to execute the Work. Said wage rates pursuant to Section 1773.2 of the Labor Code are on file with the General Services, 2637 W Burrel Ave., Ste. 200, Visalia, California, and will be made available to any interested person on request.
- 15.12.2 Pursuant to Section 1775 of the Labor Code of the State of California, nothing in this chapter shall prevent the employment of properly registered apprentices upon public works.
- 15.12.3 Every such apprentice shall be paid the standard wage paid to apprentices under the regulations of the craft or trade at which it is employed, and shall be employed only at the work of the craft or trade to which it is registered.
- 15.12.4 Only apprentices, as defined in Labor Code Section 3077, who are in training under apprenticeship standards and written apprentice agreements under Chapter 4 (commencing at Section 3070), Division 3, of the Labor Code, are eligible to be employed on public works. The employment and training of each apprentice shall be in accordance with the provisions of the apprenticeship standards and apprentice agreements under which it is training.

15.13 **PROVISIONS REQUIRED BY LAW DEEMED INSERTED**

- 15.13.1 Every provision of law and clause required by law to be inserted in this Contract shall be deemed to be inserted, and this Contract shall be read and enforced as though it were included, and if through mistake or otherwise any provision is not inserted or is not correctly inserted, upon

application of either party the Contract shall be amended to make the insertion or correction.

15.14 Conflict of Interest.

No official of the County who is authorized on behalf of the County to negotiate, make, accept, or approve, any consulting, inspection, construction, or materials supply contract, or any subcontract in connection with the construction of the Project, or any land acquisition in connection with the Project, shall become directly or indirectly interested personally in this Contract or in any part thereof.

No officer, employee, attorney, Consultant, or inspector of or for the County who is authorized on behalf of the County to exercise any executive, supervisory, or other similar function in connection with the construction of the Project shall become directly or indirectly interested personally in this Contract or any part thereof.

15.15 No Verbal Agreements.

No verbal agreement or conversation with any officer, agent, or employee of the County, either before, during, or after the execution of the Contract Documents shall affect or modify any term or condition contained in the Contract Documents, nor shall such verbal agreement or conversation entitle the Contractor to any additional payment or time to perform whatsoever under the terms of this Agreement.

15.16 Anti-Trust Assignment.

By execution of the Contract Documents, or any subcontract awarded by the Contractor, the Contractor or any subcontractor offers and agrees to assign and hereby does assign to the County all rights, title, and interest in and to all causes of action the Contractor or subcontractor may have under Section 4 of the Clayton Act (15 USC Section 15) or under the Cartwright Act (Chapter 2 of Part 2 of Division 7 of the Business and Professions Code, commencing with Section 16700), arising from purchases of goods, services, or materials pursuant to this public works contract or subcontract. This assignment shall be made and shall become effective upon execution of the Contract.

15.17 Contractor Not Agent, Nor Employee.

Neither the Contractor nor any subcontractor, or any officer, agent, or employee of either, is, nor shall they represent themselves to be, an officer, agent, or employee of the County for any purpose whatsoever.

No person employed by the Contractor, or by any subcontractors, are, nor shall they be construed to be in any manner or for any purpose whatsoever, employees of the County

ARTICLE 16
GUARANTEE

- 16.1 Contractor guarantees that all materials and workmanship shall conform to the Contract Documents and agrees to replace, at its sole cost and expense, and in conformity with the Contract Documents, any defective material and any and all work defectively or improperly performed or installed within a period of **One (1) year** after final acceptance in accordance with paragraph 9.8 of the General Conditions. The Contractor shall, in no case longer than fifteen (15) days after receipt of written notice thereof, commence to repair and/or replace any defect in materials or workmanship which may develop during said one **(1) year** period, and any damage to adjacent materials resulting from the repairing or replacing of such defects, at its own expense and without cost to County. In the event Contractor fails to remedy any such defect within fifteen (15) days after receipt of such written notice (unless Contractor has commenced the repair and is diligently pursuing the repair to completion), County may proceed to have such defects remedied at Contractor's expense and Contractor shall pay the costs and charges

incurred thereby. Emergency repairs, including but not limited to power, water, sewer, fire and life safety, shall have a forty-eight (48) hour response time. The cost and repair of any supplementary damage caused by construction defects will be the sole responsibility of the Contractor. Neither acceptance nor payment nor any provision in these documents shall be deemed to be a waiver by County to relieve Contractor of any responsibility under this Contract. The Contractor shall submit a written guarantee on the form that follows.

GUARANTEE

Guarantee for _____ County of Tulare _____. We hereby guarantee that the Tulare County - Three Rivers Museum Restroom, 42268 Sierra Drive, Three Rivers, CA 93271 which we have installed in Three Rivers, California, has been installed in accordance with the drawings and specifications, and that the Work as installed will fulfill the requirements included in the specifications. The undersigned agrees to repair or replace any or all so such Work, together with any other adjacent work which may be displaced in connection with such replacement, that may prove to be defective in workmanship or material within a period of one calendar year by the _____ County of Tulare _____, ordinary wear and tear and unusual abuse or neglect expected.

In the event of the undersigned's failure to comply with the above-mentioned conditions within a reasonable period of time, as determined by the County, but not later than ten (10) days after being notified in writing by the County, the undersigned authorizes the County to proceed to have said defects repaired and made good at the expense of the undersigned, which will pay the costs and charges therefore upon demand.

Countersigned

(Proper name)
Date of signature: _____

(Proper name)
Date of signature: _____

(Printed name)

(Printed name)

By: _____

By: _____

(Signature of Subcontractor or
General Contractor)

(Signature of General Contractor if for
Subcontractor)

Representatives to be contacted for services;

Name: _____

Address: _____

Telephone Number: _____

END OF SECTION 00700

SECTION 01010
SUMMARY OF THE WORK

PART 1 - GENERAL

1.1 SUMMARY

A. Work included:

1. The "Project," of which the "Work" of this Contract is a part, is titled "**Three Rivers Museum Restrooms**" on all plans and specifications. It is composed of a modular building with public restrooms and accessible parking facilities to be constructed on the Three Rivers Museum property in the City of Three Rivers, California.
2. The "Work" of this Contract is defined in the Contract Documents to include, but not necessarily to be limited to:
 - a. ADA compliant restrooms;
 - b. Accessible parking stalls;
 - c. Concrete sidewalk with path of travel ADA compliant between parking and restrooms;
 - d. Connection to domestic potable water and fire protection water;
 - e. Connection to on-site septic system;
 - f. Electrical service for restrooms and future museum barn;

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions and Sections in Division 1 of these Specifications.

END OF SECTION

SECTION 01021
CASH ALLOWANCES

PART 1 - GENERAL

1.1 SUMMARY

- A. To provide adequate budget and bonding to cover items not precisely determined by the County prior to bidding, allow within the proposed Contract Sum the amounts described in this Section.

- 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. Other provisions concerning Cash Allowances are stated in Paragraph 3.8 of the General Conditions.
 - 3. Other provisions concerning Cash Allowances also may be stated in other Sections of these Specifications.

1.2 SPECIFIC CASH ALLOWANCES

- A.
 - 1. Provide an allowance in the amount of Six Thousand Dollars (\$6,000.00) to furnish and install all door hardware, including sign requirements, weatherstripping, etc., for all the restroom doors.

END OF CASH ALLOWANCES

SECTION 01027

APPLICATIONS FOR PAYMENT

PART 1 - GENERAL

1.1 SUMMARY

- A. Comply with procedures described in this Section when applying for progress payment and final payment under the Contract.
- 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. The Contract Sum and the schedule for payments are described in the Form of Agreement.
 - 3. Payments upon Substantial Completion and Completion of the Work are described in the General Conditions and in Section 01700 of these Specifications.
 - 4. The Architect's approval of applications for progress payment and final payment may be contingent upon the Architect's approval of status of Project Record Documents as described in Section 01720 of these Specifications.

1.2 QUALITY ASSURANCE

- A. Prior to start of construction, secure the Architect's approval of the schedule of values required to be submitted under Paragraph 9.2 of the General Conditions, and further described in Section 01370 of these Specifications.
- B. During progress of the Work, modify the schedule of values as approved by the Architect to reflect changes in the Contract Sum due to Change Orders or other modifications of the Contract.
- C. Base requests for payment on the approved schedule of values.

1.3 PROCEDURES

- A. Informal submittal: Unless otherwise directed by the Architect:
 - 1. Make an informal submittal of request for payment by filling in, with erasable pencil, pertinent portions of AIA Document G702, "Application and Certificate for Payment," plus continuation sheet or sheets.
 - 2. Make this preliminary submittal to the Architect at the last regular job meeting

- of each month.
3. Revise the informal submittal of request for payment as agreed at the job meeting, initialing all copies.
- B. Formal submittal: Unless otherwise directed by the Architect:
1. Make formal submittal of request for payment by filling in the agreed data, by typewriter or neat lettering in ink, on AIA Document G702, "Application and Certificate for Payment," plus continuation sheet or sheets.
 2. Sign and notarize the Application and Certificate for Payment.
 3. Submit the original of the Application and Certificate for Payment, plus three identical copies of the continuation sheet or sheets, to the Architect.
 4. The Architect will compare the formal submittal with the approved informal submittal and, when approved, will sign the Application and Certificate for Payment, will make required copies, and will distribute:
 - a. One copy to Contractor;
 - b. Two copies to County;
 - c. One copy to Architect's file; and
 5. County will, upon approval, disburse directly to the Contractor.

END OF SECTION

SECTION 01028

CHANGE ORDER PROCEDURE

PART 1 - GENERAL

1.1 SUMMARY

- A. Make such changes in the Work, in the Contract Sum, in the Contract Time of Completion, or any combination thereof, as are described in written Change Orders signed by the Owner and the Architect and issued after execution of the Contract, in accordance with the provisions of this Section.

- 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. Changes in the Work are described further in the General Conditions.
 - 3. Architect's supplemental instructions:
 - a. From time to time during progress of the Work the Architect may issue supplemental instructions which interpret the Contract Documents or order minor changes in the Work without change in Contract Sum or Contract Time.
 - b. Should the Contractor consider that a change in Contract Sum or Contract Time is required, he shall submit an itemized proposal to the Architect immediately and before proceeding with the Work. If the proposal is found to be satisfactory and in proper order, the supplemental instructions in that event will be superseded by a Change Order.
 - 4. Proposal requests:
 - a. From time to time during progress of the Work the Architect may issue a proposal request for an itemized quotation for changes in the Contract Sum and/or Contract Time incidental to proposed modifications to the Contract Documents.
 - b. This will not be a Change Order, and will not be a direction to proceed with the changes described therein.

1.2 QUALITY ASSURANCE

- A. Include within the Contractor's quality assurance program such measures as are needed to assure familiarity of the Contractor's staff and employees with these procedures for processing Change Order data.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Maintain a "Register of proposal requests, supplemental instructions, and Change Orders" at the job site, accurately reflecting current status of all pertinent data.
- B. Make the Register available to the Architect for review at his request.

1.4 PROCESSING PROPOSAL REQUESTS

- A. Make written reply to the Architect in response to each proposal request.
 - 1. State proposed change in the Contract Sum, if any.
 - 2. State proposed change in the Contract Time of Completion, if any.
 - 3. Clearly describe other changes in the Work, if any, required by the proposed change or desirable therewith.
 - 4. Include full backup data such as subcontractors' letter of proposal or similar information.
 - 5. Submit this response in single copy.
- B. When cost or credit for the change has been agreed upon by the County and the Contractor, or the County has directed that cost or credit be determined in accordance with provisions of the General Conditions, the Architect will issue a Change Order to the Contractor.

1.5 PROCESSING CHANGE ORDERS

- A. Change Orders will be numbered in sequence, and dated.
 - 1. The Change Order will describe the change or changes, will refer to the proposal requests or supplemental instructions involved, and will be signed by the County and the Architect.
 - 2. The Architect will issue four copies of each Change Order to the Contractor.
 - a. The Contractor promptly shall sign all four copies and return three copies to the Architect.
 - b. The Architect will retain one signed copy in his file, will forward two signed copies to the Owner.

END OF SECTION

SECTION 01045

CUTTING AND PATCHING

PART 1 - GENERAL

1.1 SUMMARY

- A. 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. Uncover work to provide for installing, inspecting, or both, of ill-timed work;
 - 3. Remove and replace work not conforming to requirements of the Contract Documents; and
 - 4. Remove and replace defective work.

- 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. In addition to other requirements specified, upon the Architect's request uncover work to provide for inspection by the Architect of covered work, and remove samples of installed materials for testing.
 - 3. Do not cut or alter work performed under separate contracts without the Architect's written permission.

1.2 SUBMITTALS

- A. Request for Architect's consent:
 - 1. Prior to cutting which effects structural safety, submit written request to the Architect 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 Architect and secure his written permission and the required Change Order prior to proceeding.

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

CUTTING AND PATCHING

01045-1

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. For replacement of items removed, use materials complying with pertinent Sections of these Specifications.

2.2 PAYMENT FOR COSTS

- A. The Owner will reimburse the Contractor for cutting and patching performed pursuant to a written Change Order, after claim for such reimbursement is submitted by the Contractor. Perform other cutting and patching needed to comply with the Contract Documents at no additional cost to the Owner.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

- A. Inspection:
 - 1. Inspect existing conditions, including elements subject to movement or damage during cutting, excavating, patching, and backfilling.
 - 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 Architect and secure needed directions.
 - 2. Do not proceed until unsatisfactory conditions are corrected.

3.2 PREPARATION PRIOR TO CUTTING

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

3.3 PERFORMANCE

- A. Perform required excavating and backfilling as required under pertinent other

Sections of these Specifications.

1. Perform cutting and demolition by methods which will prevent damage to other portions of the Work and provide proper surfaces to receive installation of re-pair and new work.
2. Perform fitting and adjusting of products to provide finished installation complying with the specified tolerances and finishes.

END OF SECTION

SECTION 01050

FIELD ENGINEERING

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide such field engineering services as are required for proper completion of the Work including, but not necessarily limited to:
 - 1. Establishing and maintaining lines and levels;
 - 2. Structural design of shores, forms, and similar items provided by the Contractor as part of his means and methods of construction.

- 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. Additional requirements for field engineering also may be described in other Sections of these Specifications.
 - 3. As described in the General Conditions, the Owner will furnish survey describing the physical characteristics, legal limitations, utility locations, and legal de-scription of the site.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.

- B. Upon request of the Architect, submit:
 - 1. Data demonstrating qualifications of persons proposed to be engaged for field engineering services.
 - 2. Documentation verifying accuracy of field engineering work.
 - 3. Certification, signed by the Contractor's retained field engineer, certifying that elevations and locations of improvements are in conformance or nonconformance with requirements of the Contract Documents.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.4 PROCEDURES

- A In addition to procedures directed by the Contractor for proper performance of the Contractor's responsibilities:
1. Locate and protect control points before starting work on the site.
 2. Preserve permanent reference points during progress of the Work.
 3. Do not change or relocate reference points or items of the Work without specific approval from the Architect.
 4. Promptly advise the Architect when a reference point is lost or destroyed, or requires relocation because of other changes in the Work.
 - a. Upon direction of the Architect, require the field engineer to replace reference stakes or markers.
 - b. Locate such replacements according to the original survey control.

END OF SECTION

SECTION 01200

PROJECT MEETINGS

PART 1 - GENERAL

1.1 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:
 - 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. The Contractor's relations with his subcontractors and materials suppliers, and discussions relative thereto, are the Contractor's responsibility and normally are not part of project meetings content.

1.2 SUBMITTALS

- A. Agenda items: To the maximum extent practicable, advise the Architect at least 24 hours in advance of project meetings regarding items to be added to the agenda.
- B. Minutes:
 - 1. The Owner or the Owner's representative, at their option, will compile minutes of each project meeting, and will furnish copies to the Contractor and the Architect.
 - 2. Recipients of copies may make and distribute such other copies as they wish.

1.3 QUALITY ASSURANCE

- A. For those persons designated by the Contractor to attend and participate in project meetings, provide required authority to commit the Contractor to solutions agreed upon in the project meetings.

PART 2 - PRODUCTS

(No products are required in this Section)

PART 3 - EXECUTION

3.1 MEETING SCHEDULE

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

3.2 MEETING LOCATION

- A. The Architect will establish meeting location. To the maximum extent practicable, meetings will be held at the job site.

3.3 PRECONSTRUCTION MEETING

- A. Preconstruction Meeting will be scheduled to be held within 15 working days after the Owner has issued the Notice to Proceed.
 - 1. Provide attendance by authorized representatives of the Contractor and major subcontractors.
 - 2. The Architect will advise other interested parties, including the Owner, and request their attendance.

- B. Minimum agenda: Data will be distributed and discussed on at least the following items:
 - 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 Bulletins, field decisions, and Change Orders.
 - 7. Rules and regulations governing performance of the Work; and
 - 8. Procedures for safety and first aid, security, quality control, housekeeping, and related matters.

3.4 PROJECT MEETINGS

- A. Attendance:
 - 1. To the maximum extent practicable, assign the same person or persons to represent the Contractor at project meetings throughout progress of the Work.
 - 2. Subcontractors, materials suppliers, and others may be invited to attend those project meetings in which their aspect of the Work is involved.

- B. Minimum agenda:
 - 1. Review progress of the Work since last meeting, including status of submittals for approval.
 - 2. Identify problems which impede planned progress.
 - 3. Develop corrective measures and procedures to regain planned schedule.
 - 4. Complete other current business.

END OF SECTION

SECTION 01310

PROGRESS SCHEDULES

PART 1 - GENERAL

1.1 SUMMARY

- A. 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 Architect in appraising the reasonableness of the proposed schedule and in evaluating progress of the Work, prepare and maintain the schedules and reports described in this Section.
- B. Related work:
 - 1. Documents affecting work of this Section include, but are not necessarily limited to, General Conditions and Sections in Division 1 of these Specifications.
 - 2. Requirements for progress schedule: General Conditions.
 - 3. Construction period: Form of Agreement.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Preliminary analysis: Within ten calendar days after the Contractor has received the Owner's Notice to Proceed, submit one reproducible copy and four prints of a preliminary construction schedule prepared in accordance with Part 3 of this Section.
- C. Construction schedule: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit one reproducible copy and four prints of a construction schedule prepared in accordance with Part 3 of this Section.
- D. Periodic reports: On the first working day of each month following the submittal described in Paragraph 1.2-C above, submit four prints of the construction schedule updated as described in Part 3 of this Section.

1.3 QUALITY ASSURANCE

- A. Employ a scheduler who is thoroughly trained and experienced in compiling construction schedule data, and in preparing and issuing periodic reports as required below.
- B. Perform data preparation, analysis, charting, and updating in accordance with standards approved by the Architect.
- C. Reliance upon the approved schedule:
 - 1. The construction schedule as approved by the Architect will be an integral part of the Contract and will establish interim completion dates for the various activities under the Contract.
 - 2. Should any activity not be completed within 15 days after the stated scheduled date, the Owner shall have the right to require the Contractor to expedite completion of the activity by whatever means the Owner deems appropriate and necessary, without additional compensation to the Contractor.
 - 3. Should any activity be 30 days or more behind schedule, the Owner shall have the

- right to perform the activity or have the activity performed by whatever method the Owner deems appropriate.
4. Costs incurred by the Owner and by the Architect in connection with expediting construction activity under this Article shall be reimbursed by the Contractor.
 5. It is expressly understood and agreed that failure by the Owner to exercise the option either to order the Contractor to expedite an activity or to expedite the activity by other means shall not be considered to set a precedent for any other activities.

PART 2 - PRODUCTS

21 CONSTRUCTION ANALYSIS

- A. Graphically show by bar-chart, or other means acceptable to the Architect, 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.
- B. Include, but do not necessarily limit indicated activities to:
 1. Project mobilization;
 2. Submittal and approval of Shop Drawings and Samples;
 3. Procurement of equipment and critical materials;
 4. Fabrication of special material and equipment, and its installation and testing.
 5. Final cleanup;
 6. Final inspecting and testing; and
 7. All activities by the Architect that effect progress, required dates for completion, or both, for all and each part of the Work.

PART 3- EXECUTION

3.1 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 construction schedule required under Paragraph 1.2-C 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 construction schedule.

3.2 CONSTRUCTION SCHEDULE

- A. As required under Paragraph 1.2-D above, update the approved construction schedule.
 1. Indicate "actual" progress in percent completion for each activity;
 2. Provide written narrative summary of revisions causing delay in the program, and an explanation of corrective actions taken or proposed.

3.4 REVISIONS

- A. Make only those revisions to approved construction schedule as are approved in advance by the Architect.

END OF SECTION

SECTION 01340

SHOP DRAWINGS, PRODUCT DATA, AND SAMPLES

PART 1 - GENERAL

1.1 SUMMARY

- A. Make submittals required by the Contract Documents, and re-vise and resubmit as necessary to establish compliance with the specified requirements, all as described in this Section.

- 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.
The process for securing approval of proposed substitutions is described in Section 01630, "Product Options and Substitutions."

- 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 unless specifically called for within the Contract Documents.

1.2 SUBMITTALS

- A. Make submittals of Shop Drawings, Samples, substitution requests, and other items in accordance with the provisions of this Section.

1.3 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. By affixing the Contractor's signature to each submittal, certify that this coordination has been performed.

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 one sepia transparency of each sheet plus three blueline or blackline prints of each sheet.
 - 1. Blueline or blackline prints in adequate quantities will be acceptable with prior agreement by all parties.
- C. Review comments of the Architect will be shown on the sepia transparency or multiple blueline or blackline prints when returned to the Contractor. The Contractor may make and distribute such copies as are required for his purposes.

2.2 MANUFACTURERS' LITERATURE

- A. Where contents of submitted literature from manufacturers includes data not pertinent to the submittal, clearly show which portion of the contents is being submitted for review.
- B. Submit the number of copies which are required to be returned, plus two copies which will be retained by the 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 two which will be retained by the Architect.
 - 2. By prearrangement in specific cases, a single Sample may be submitted for review and, when approved, be installed in the Work at a location agreed upon 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.

PART 3 - EXECUTION

3.1 IDENTIFICATION OF SUBMITTALS

- A. Consecutively number all submittals.
 - 1. When material is submitted for any reason, transmit 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 showing all information required for identification and checking.
- C. On at least the first page of each submittal, and else-where as required for positive identification, show the submittal number in which the item was included.
- D. Submittal log:
 - 1. Maintain an accurate submittal log for the duration of the Work, showing current status of all submittals at all times.
 - 2. Make the submittal log available to the Architect for the Architect's 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.
- B. In scheduling, allow at least ten working days for review by the Architect following the Architect's receipt of the submittal.

END OF SECTION

SECTION 01370
SCHEDULE OF VALUES

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide a detailed breakdown of the agreed Contract Sum showing values allocated to each of the various parts of the Work, as specified herein and in other provisions of the Contract Documents.
- 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. Preparation and submittal of a schedule of values is required by the General Conditions.
 - 3. Schedule of values is required to be compatible with the "continuation sheet" accompanying applications for payment, as described in Section 01027.

1.2 SUBMITTALS

- A. Prior to first application for payment, submit a proposed schedule of values to the Architect.
 - 1. Meet with the Architect and determine additional data, if any, required to be submitted.
 - 2. Secure the Architect's approval of the schedule of values prior to submitting first application for payment.

1.3 QUALITY ASSURANCE

- A. Use required means to assure arithmetical accuracy of the sums described.
- B. When so requested by the Architect, provide copies of the subcontracts or other data acceptable to the Architect, substantiating the sums described.

END OF SECTION

SECTION 01410

TESTING LABORATORY SERVICES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section describes testing and inspecting to be provided by the Contractor, plus cooperation required from the Contractor with the Owner's selected testing agency and others responsible for testing and inspecting the Work.
- 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. Requirements for testing may be described in various Sections of these Specifications.
 - 3. Where no testing requirements are described, but the Owner decides that testing is required, the Owner may require such testing to be performed under current pertinent standards for testing. Payment for such testing will be made as described in this Section.
- C. Work not included:
 - 1. Selection of testing laboratory: The Owner will select a pre-qualified independent testing laboratory.
 - 2. Selection of construction soil engineer: The Owner will select a pre-qualified independent soil engineer to observe performance of work in connection with excavating, trenching, filling, backfilling, and grading, and to perform compaction tests.

1.2 QUALITY ASSURANCE

- A. The testing laboratory will be qualified to the Owner's approval in accordance with ASTM E329.
- B. Testing, when required, will be in accordance with all pertinent codes and regulations, and with selected standards of the American Society for Testing and Materials.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620
- B. Promptly process and distribute required copies of test reports and related

instructions to assure necessary retesting and replacement of materials with the least possible delay in progress of the Work.

PART 2 - PRODUCTS

2.1 PAYMENT FOR TESTING

- A. Initial services of testing laboratory:
 - 1. The Owner will pay for initial services requested by the Owner.
 - 2. When initial tests indicate non-compliance with the Contract Documents, the costs of all tests associated with that non-compliance will be deducted by the Owner from the Contract Sum.

- B. Initial services of construction soil engineer:
 - 1. The Owner will pay for initial services requested by the Owner including, but not necessarily limited to, observing performance of work in connection with excavating, trenching, filling, backfilling, and grading.
 - 2. The Owner will pay for compaction tests performed by the construction soil engineer, but will deduct from the Contract Sum the costs for compaction tests performed to provide compliance with codes of ordinances.

- C. Retesting: When initial tests indicate non-compliance with the Contract Documents, subsequent retesting occasioned by the non-compliance shall be performed by the same testing agency, and costs thereof will be deducted by the Owner from the Contract Sum.

2.2 CODE COMPLIANCE TESTING

- A. Inspections and tests required by codes or ordinances, or by a plan approval authority, and which are made by a legally constituted authority, shall be the responsibility of and shall be paid for by the Contractor, unless otherwise provided in the Contract Documents.

2.3 CONTRACTOR'S CONVENIENCE TESTING

- A. Inspecting and testing performed exclusively for the Contractor's convenience shall be the sole responsibility of the Contractor.

PART 3 - EXECUTION

3.1 COOPERATION WITH TESTING LABORATORY

- A. Representatives of the testing laboratory shall have access to the Work at all times and at all locations where the Work is in progress. Provide facilities for such access to enable the laboratory to perform its functions properly.

TESTING LABORATORY SERVICES

3.2 TAKING SPECIMENS

- A. All specimens and samples for testing, unless otherwise provided in the Contract Documents, shall be taken by the testing personnel. All sampling equipment and personnel will be provided by the testing laboratory. All deliveries of specimens and samples to the testing laboratory will be performed by the testing laboratory.

3.3 SCHEDULES FOR TESTING

- A. Establishing schedule:
 - 1. By advance discussion with the testing laboratory selected by the Owner, determine the time required for the laboratory to perform its tests and to issue each of its findings.
 - 2. Provide all required time with the construction schedule.
- B. Revising schedule: When changes of construction schedule are necessary during construction, coordinate all such changes with the testing laboratory as required.
- C. Adherence to schedule: When the testing laboratory is ready to test according to the established schedule, but is prevented from testing or taking specimens due to incompleteness of the Work, all extra charges for testing attributable to the delay may be back-charged to the Contractor and shall not be borne by the Owner.

END OF SECTION

SECTION 01500

CONSTRUCTION FACILITIES AND TEMPORARY CONTROLS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section describes construction facilities and temporary controls required for the Work.
- 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. Except that equipment furnished by subcontractors shall comply with requirements of pertinent safety regulations, such equipment normally furnished by the individual trades in execution of their own portions of the Work are not part of this Section.
 - 3. Permanent installation and hookup of the various utility lines are described in other Sections.

1.2 REQUIREMENTS

- A. Provide construction facilities and temporary controls needed for the Work including, but not necessarily limited to:
 - 1. Telephone and fax machine with copier capabilities;
 - 2. Enclosures such as tarpaulins, barricades, and canopies;
 - 3. Temporary fencing of the construction site and/or materials storage area;

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Maintain temporary facilities and controls in proper and safe condition throughout progress of the Work.

PART 2 - PRODUCTS

2.1 UTILITIES

- A. Telephone:
 - 1. Make necessary arrangements and pay costs for installation and operation of telephone service to the Contractor's office at the site or a cellular phone is an acceptable alternative.
 - 2. Make the telephone available to the Architect for use in connection with the Work.
 - 3. Make the fax machine with copier capabilities available to the Architect for use in connection with the Work.

2.2 FIELD OFFICES AND SHEDS

- A. Contractor's facilities:
 - 1. Provide a field office building and sheds adequate in size and accommodation for Contractor's offices, supply, and storage.
- B. Sanitary facilities:
 - 1. Use of the existing sanitary facilities is permissible for use by all personnel and shall be maintained in a sanitary condition at all times by the Contractor.

2.3 ENCLOSURES

- A. Provide and maintain for the duration of construction all scaffolds, tarpaulins, canopies, warning signs, steps, platforms, bridges, and other temporary construction necessary for proper completion of the Work in compliance with pertinent safety and other regulations.

2.4 TEMPORARY FENCING

- A. Provide and maintain for the duration of construction a temporary fence of design and type needed to store materials on the site, coordinate with Owner the exact location available.

PART 3 - EXECUTION

3.1 MAINTENANCE AND REMOVAL

- A. Maintain temporary facilities and controls as long as needed for safe and proper completion of the Work.
- B. Remove such temporary facilities and controls as rapidly as progress of the Work will permit, or as directed by the Architect.

END OF SECTION

SECTION 01545

CONTRACTOR'S USE OF THE PREMISES

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section applies to all situations in which the Contractor or his representatives including, but not necessarily limited to, suppliers, subcontractors, employees, and field engineers, enter upon the Owner's property.
- 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 I of these Specifications.

1.2 SUBMITTALS

- A. Maintain an accurate record of the names and identification of all persons entering upon the Owner's property in connection with the Work of this Contract, including times of entering and times of leaving, and submit a copy of the record to the Owner daily.

1.3 QUALITY ASSURANCE

- A. Promptly upon award of the Contract, notify all pertinent personnel regarding requirements of this Section.
- B. Require that all personnel who will enter upon the Owner's property certify their awareness of and familiarity with the requirements of this Section.

1.4 TRANSPORTATION FACILITIES

- A. Truck and equipment access:
 - 1. To avoid traffic conflict with vehicles of the Owner's employees and customers, and to avoid overloading of streets and driveways elsewhere on the Owner's property, limit the access of trucks and equipment to the route mutually agreed to by all parties prior to start of the Work.
 - 2. Provide adequate protection for curbs and sidewalks over which trucks and equipment pass to reach the job site.
- C. Contractor's vehicles:

CONTRACTOR'S USE OF THE PREMISES

1. Require Contractor's vehicles, vehicles belonging to employees of the Contractor, and all other vehicles entering upon the Owner's property in performance of the Work of the Contract, to use only the route mutually agreed to by all parties.
2. Do not permit such vehicles to park on any street or other area of the Owner's property except in the area agreed to by all parties prior to start of the Work.

1.5 SECURITY

- A. Restrict the access of all persons entering upon the Owner's property in connection with the Work to the agreed to route and to the actual site of the Work.

END OF SECTION

SECTION 01620

STORAGE AND PROTECTION

PART 1 - GENERAL

1.1 SUMMARY

- A. Protect products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.
- 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 I of these Specifications.
 - 2. Additional procedures also may be prescribed in other Sections of these Specifications.

1.2 QUALITY ASSURANCE

- A. Include within the Contractor's quality assurance program such procedures as are required to assure full protection of work and materials.

1.3 MANUFACTURERS' RECOMMENDATIONS

- A. Except as otherwise approved by the Architect, determine and comply with manufacturers' recommendations on product handling, storage, and protection.

1.4 PACKAGING

- A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.
 - 1. Maintain packaged materials with seals unbroken and labels intact until time of use.
 - 2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with material meeting the specified requirements, at no additional cost to the Owner.
- B. The Architect may reject as non-complying such material and products that do not bear identification satisfactory to the Architect as to manufacturer, grade, quality, and other pertinent information.

1.5 PROTECTION

STORAGE AND PROTECTION

- A. Protect finished surfaces, including jambs and soffits of openings used as passageways, through which equipment and materials are handled.
- B. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.
- C. Maintain finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.

1.6 REPAIRS AND REPLACEMENTS

- A. In event of damage, promptly make replacements and repairs to the approval of the Architect and at no additional cost to the Owner.
- B. Additional time required to secure replacements and to make repairs will not be considered by the Architect to justify an extension in the Contract Time of Completion.

END OF SECTION

SECTION 01630

PRODUCT OPTIONS AND SUBSTITUTIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section describes product options available to bidders and the Contractor, plus procedures for securing approval of proposed substitutions.
- 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 I of these Specifications.
 - 2. Form 00440 in the Bidding Documents provides space for bidders to propose substitutions prior to award of the Contract.
 - 3. Make submittals in accordance with pertinent provisions of Section 01340.

1.2 PRODUCT OPTIONS

- A. The Contract is based on standards of quality established in the Contract Documents.
 - 1. In agreeing to the terms and conditions of the Contract, the Contractor has accepted a responsibility to verify that the specified products will be available and to place orders for all required materials in such a timely manner as is needed to meet his agreed construction schedule.
 - 2. Neither the Owner nor the Architect has agreed to the substitution of materials or methods called for in the Contract Documents, except as they may specifically otherwise state in writing.
- B. Materials and/or methods specified by name:
 - 1. Where materials and/or methods are specified by naming one single manufacturer and/or model number, without stating that equal products will be considered, only the material and/or method named is approved for incorporation into the Work.
 - 2. Should the Contractor demonstrate to the approval of the Architect that a specified material or method was ordered in a timely manner and will not be available in time for incorporation into this Work, the Contractor shall submit to the Architect such data on proposed substitute materials and/or methods as are needed to help the Architect determine suitability of the proposed substitution.
- C. Where materials and/or methods are specified by name and/or model number,

followed by the words "or an equal approved in advance by the Architect":

1. The material and/or method specified by name establishes the required standard of quality;
 2. Materials and/or methods proposed by the Contractor to be used in lieu of materials and/or methods so specified by name shall in all ways equal or exceed the qualities of the named materials and/or methods;
 3. Proposed substitutions shall be described on form 00440 submitted at time of General Contract bid.
- D. The following products do not require further approval except for interface within the Work:
1. Products specified by reference to standard specifications such as ASTM and similar standards;
 2. Products specified by manufacturer's name and catalog model number.
- E. Where the phrase "or equal," or "or equal as approved by the Architect," occurs in the Contract Documents, do not assume that the materials, equipment, or methods will be approved as equal unless the item has been specifically so approved for this Work by the Architect.
- F. The decision of the Architect shall be final.

1.3 REIMBURSEMENT OF ARCHITECT'S COSTS

- A. In the event substitutions are proposed to the Architect after the Contract has been awarded, the Architect will record all time used by the Architect and the Architect's consultants in evaluating each such proposed substitution.
- B. Whether or not the Architect approves a proposed substitution, the Contractor promptly upon receipt of the Architect's billing shall reimburse the Architect at the rate of two and one-half times the direct cost to the Architect and the Architect's consultants for all time spent by them in evaluating the proposed substitution.

1.4 DELAYS

- A. Delays in construction arising by virtue of the non-availability of a specified material and/or method will not be considered by the Architect as justifying an extension of the agreed Time of Completion.

END OF SECTION

SECTION 01700
CONTRACT CLOSEOUT

PART 1 - GENERAL

1.1 SUMMARY

- A. This Section describes an orderly and efficient transfer of the completed Work to the Owner.
- 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 I of these Specifications.
 - 2. Activities relative to Substantial Completion and Contract closeout are described in the General Conditions.

1.2 QUALITY ASSURANCE

- A. Prior to requesting inspection by the Architect, use adequate means to assure that the Work is completed in accordance with the specified requirements and is ready for the requested inspection.

1.3 PROCEDURES

- A. Substantial Completion:
 - 1. Prepare and submit the list required by the first sentence of Paragraph 9.8.2 of the General Conditions.
 - 2. Within a reasonable time after receipt of the list, the Architect will inspect to determine status of completion.
 - 3. Should the Architect determine that the Work is not substantially complete:
 - a. The Architect promptly will so notify the Contractor, in writing, giving the reasons therefore.
 - b. Remedy the deficiencies and notify the Architect when ready for reinspection.
 - c. The Architect will reinspect the Work.
 - 4. When the Architect concurs that the Work is substantially complete:
 - a. The Architect will prepare a "Certificate of Substantial Completion," accompanied by the Contractor's list of items to be completed or corrected, as verified by the Architect.
 - b. The Architect will submit the Certificate to the Owner and to the Contractor for their written acceptance of the responsibilities assigned

to them in the Certificate.

- B. Final Completion:
1. Prepare and submit the notice required by the first sentence of Paragraph 9.10.1 of the General Conditions.
 2. Verify that the Work is complete including, but not necessarily limited to, the items mentioned in Paragraph 9.10.2 of the General Conditions.
 3. Certify that:
 - a. Contract Documents have been reviewed;
 - b. Work has been inspected for compliance with the Contract Documents;
 - c. Work has been completed in accordance with the Contract Documents;
 - d. Equipment and systems have been tested as required, and are operational;
 - e. Work is completed and ready for final inspection.
 4. The Architect will make an inspection to verify status of completion.
 5. Should the Architect determine that the Work is incomplete or defective:
 - a. The Architect promptly will so notify the Contractor, in writing, listing the incomplete or defective work.
 - b. Remedy the deficiencies promptly, and notify the Architect when ready for reinspection.
 6. When the Architect determines that the Work is acceptable under the Contract Documents, he will request the Contractor to make closeout submittals.
- C. Closeout submittals include, but are not necessarily limited to:
1. Project Record Documents described in Section 01720;
 2. Operation and maintenance data for items so listed in pertinent other Sections of these Specifications, and for other items when so directed by the Architect;
 3. Warranties and bonds;
 4. Keys and keying schedule;
 5. Spare parts and materials extra stock;
 6. Evidence of compliance with requirements of governmental agencies having jurisdiction including, but not necessarily limited to:
 - a. Certificates of Inspection;
 - b. Certificates of Occupancy;
 7. Certificates of Insurance for products and completed operations;
 8. Evidence of payment and release of liens;
 9. List of subcontractors, service organizations, and principal vendors, including names, addresses, and telephone numbers where they can be reached for emergency service at all times including nights, weekends, and holidays.
- D. Final adjustment of accounts:
1. Submit a final statement of accounting to the Architect, showing all adjustments to the Contract Sum.

2. If so required, the Architect will prepare a final Change Order showing adjustments to the Contract Sum which were not made by Change Orders.

1.4 INSPECTION

- A. Instruct the Owner's personnel in proper operation and maintenance of systems, equipment, and similar items which were provided as part of the Work.

END OF SECTION

SECTION 01710

CLEANING

PART 1 - GENERAL

1.1 SUMMARY

- A. Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.
- 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 I of these Specifications.
 - 2. In addition to standards described in this Section, comply with requirements for cleaning as described in pertinent other Sections of these Specifications.

1.2 QUALITY ASSURANCE

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

PART 2 - PRODUCTS

2.1 CLEANING MATERIALS AND EQUIPMENT

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

2.2 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.

PART 3 - EXECUTION

3.1 PROGRESS CLEANING

- A. General:
 - 1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
 - 2. Do not allow 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 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. Re-move 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. Re-stack, tidy, or otherwise service arrangements to meet the requirements of subparagraph 3.1-A-1 above.
 - 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 such items to the place designated for their storage.
 - 2. Weekly, and more often if necessary, sweep interior spaces clean.
 - a. "Clean," for the purpose of this subparagraph, shall be interpreted as meaning free from dust and other material capable of being removed by use of reasonable effort and a 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 equipment and materials required to achieve the necessary 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 are installed.
 - a. "Clean," for the purpose of this subparagraph, shall be interpreted as meaning free from foreign material which, in the opinion of the Architect, may be injurious to the finish floor material.

3.2 FINAL CLEANING

- A. "Clean," for the purpose of this Article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
- B. 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 3.1 above.

C. Site:

1. Unless otherwise specifically directed by the Architect, broom clean paved areas on the site and public paved areas adjacent to the site.
2. Completely remove resultant debris.

D. Structures:

1. Exterior:
 - a. Visually inspect exterior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
 - b. Remove all traces of splashed materials from adjacent surfaces.
 - c. If necessary to achieve a uniform degree of cleanliness, hose down the exterior of the structure.
 - d. 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 Owner.
2. Interior:
 - a. Visually inspect interior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
 - b. Remove all traces of splashed material from adjacent surfaces.
 - c. Remove paint droppings, spots, stains, and dirt from finished surfaces.
3. Glass: Clean inside and outside.
4. Polished surfaces: To surfaces requiring routine application of buffed polish, apply the polish recommended by the manufacturer of the material being polished.

- E. Schedule final cleaning as approved by the Architect to enable the Owner to accept a completely clean Work.

3.3 CLEANING DURING OWNER'S OCCUPANCY

- A. Should the Owner occupy the Work or any portion thereof prior to its completion by the Contractor and acceptance by the Owner, responsibilities for interim and final cleaning shall be as determined by the Architect in accordance with the General Conditions of the Contract.

END OF SECTION

SECTION 01720

PROJECT RECORD DOCUMENTS

PART 1 - GENERAL

1.1 SUMMARY

- A. Throughout progress of the Work, maintain an accurate record of changes in the Contract Documents, as described in Article 3.1 below and, upon completion of the Work, transfer the recorded changes to a set of Record Documents, as described in Article 3.2 below.
- 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 I of these Specifications.
 - 2. Other requirements affecting Project Record Documents may appear in pertinent other Sections of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. The Architect's approval of the current status of Project Record Documents may be a prerequisite to the Architect's approval of requests for progress payment and request for final payment under the Contract.
- C. Prior to submitting each request for progress payment, secure the Architect's approval of the current status of the Project Record Documents.
- D. Prior to submitting request for final payment, submit the final Project Record Documents to the Architect and secure his approval.

1.3 QUALITY ASSURANCE

- A. Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff as approved by the Architect.
- B. Accuracy of records:
 - 1. Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show the

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- change properly.
 - 2. Accuracy of records shall be such that future search for items shown in the Contract Documents may rely reasonably on information obtained from the approved Project Record Documents.
- C. Make entries within 24 hours after receipt of information that the change has occurred.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Maintain the job set of Record Documents completely protected from deterioration and from loss and damage until completion of the Work and transfer of all recorded data to the final Project Record Documents.
- B. In the event of loss of recorded data, use means necessary to again secure the data to the Architect's approval.
 - 1. Such means shall include, if necessary in the opinion of the Architect, removal and replacement of concealing materials.
 - 2. In such case, provide replacements to the standards originally required by the Contract Documents.

PART 2 - PRODUCTS

2.1 RECORD DOCUMENTS

- A. Job set: Promptly following receipt of the Owner's Notice to Proceed, secure from the Architect at no charge to the Contractor one complete set of all Documents comprising the Contract.
- B. Final Record Documents: At a time nearing completion of the Work, secure from the Architect at no charge to the Contractor one complete set of transparencies of all Drawings in the Contract.

PART 3 - EXECUTION

3.1 MAINTENANCE OF JOB SET

- A. Immediately upon receipt of the job set described in Para-graph 2.1-A above, identify each of the Documents with the title, "RECORD DOCUMENTS - JOB SET."
- B. Preservation:
 - 1. Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries and for

- examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set to the approval of the Architect.
2. Do not use the job set for any purpose except entry of new data and for review by the Architect, until start of transfer of data to final Project Record Documents.
 3. Maintain the job set at the site of Work as that site is designated by the Architect.
- C. Making entries on Drawings:
1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required.
 2. Date all entries.
 3. Call attention to the entry by a "cloud" drawn around the area or areas affected.
 4. In the event of overlapping changes, use different colors for the overlapping changes.
- D. Make entries in the pertinent other Documents as approved by the Architect.
- E. Conversion of schematic layouts:
1. In some cases on the Drawings, arrangements of conduits, circuits, piping, ducts, and similar items, is shown schematically and is not intended to portray precise physical layout.
 - a. Final physical arrangement is determined by the Contractor, subject to the Architect's approval.
 - b. However, design of future modifications of the facility may require accurate information as to the final physical layout of items which are shown only schematically on the Drawings.
 2. Show on the job set of Record Drawings, by dimension accurate to within one inch, the centerline of each run of items such as are described in subparagraph 3.1-E-1 above.
 - a. Clearly identify the item by accurate note such as "cast iron drain," "galv. water," and the like.
 - b. Show, by symbol or note, the vertical location of the item ("under slab," "in ceiling plenum," "exposed," and the like).
 - c. Make all identification so descriptive that it may be related reliably to the Specifications.
 3. The Architect may waive the requirements for conversion of schematic layouts where, in the Architect's judgment, conversion serves no useful purpose. However, do not rely upon waivers being issued except as specifically issued in writing by the Architect.

3.2 FINAL PROJECT RECORD DOCUMENTS

- A. The purpose of the final Project Record Documents is to provide factual

information regarding all aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.

- B. Approval of recorded data prior to transfer:
 - 1. Following receipt of the transparencies described in Paragraph 2.1-B above, and prior to start of transfer of recorded data thereto, secure the Architect's approval of all recorded data.
 - 2. Make required revisions.

- C. Transfer of data to Drawings:
 - 1. Carefully transfer change data shown on the job set of Record Drawings to the corresponding transparencies, coordinating the changes as required.
 - 2. Clearly indicate at each affected detail and other Drawings a full description of changes made during construction, and the actual location of items described in subparagraph 3.1-E-1 above.
 - 3. Call attention to each entry by drawing a "cloud" around the area or areas affected.
 - 4. Make changes neatly, consistently, and with the proper media to assure longevity and clear reproduction.

- D. Transfer of data to other Documents:
 - 1. If the Documents other than Drawings have been kept clean during progress of the Work, and if entries thereon have been orderly to the approval of the Architect, the job set of these Documents other than Drawings will be accepted as final Record Documents.
 - 2. If any such Document is not so approved by the Architect, secure a new copy of that Document from the Architect at the Architect's usual charge for reproduction and handling, and carefully transfer the change data to the new copy to the approval of the Architect.

- E. Review and submittal:
 - 1. Submit the completed set of Project Record Documents to the Architect as described in Paragraph 1.2-D above.
 - 2. Participate in review meetings as required.
 - 3. Make required changes and promptly deliver the final Project Record Documents to the Architect.

3.3 CHANGES SUBSEQUENT TO ACCEPTANCE

- A. The Contractor has no responsibility for recording changes in the Work subsequent to Final Completion, except for changes resulting from work performed under Warranty.

END OF SECTION

PROJECT RECORD DOCUMENTS

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SECTION 01730

OPERATION AND MAINTENANCE DATA

PART 1 - GENERAL

1.1 SUMMARY

- A. To aid the continued instruction of operating and maintenance personnel, and to provide a positive source of information regarding products incorporated into the Work, furnish and deliver the data described in this Section and in pertinent other Sections of these Specifications.
- 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 I of these Specifications.
 - 2. Required contents of submittals also may be amplified in pertinent other Sections of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Submit two copies of a preliminary draft of the proposed Manual or Manuals to the Architect for review and comments.
- C. Unless otherwise directed in other Sections, or in writing by the Architect, submit three copies of the final Manual to the Architect prior to indoctrination of operation and maintenance personnel.

1.3 QUALITY ASSURANCE

- A. In preparing data required by this Section, use only personnel who are thoroughly trained and experienced in operation and maintenance of the described items, completely familiar with the requirements of this Section, and skilled in technical writing to the extent needed for communicating the essential data.

PART 2 - PRODUCTS

2.1 INSTRUCTION MANUALS

OPERATION AND MAINTENANCE DATA

- A. Where instruction Manuals are required to be submitted under other Sections of these Specifications, prepare in accordance with the provisions of this Section.
- B. Format:
1. Size: 8-1/2" x 11"
 2. Paper: White bond, at least 20 lb weight
 3. Text: Neatly written or printed
 4. Drawings: 11" in height preferable; bind in with text; foldout acceptable; larger drawings acceptable but fold to fit within the Manual and provide a drawing pocket inside rear cover or bind in with text.
 5. Flysheets: Separate each portion of the Manual with neatly prepared flysheets briefly describing contents of the ensuing portion; flysheets may be in color.
 6. Binding: Use heavy-duty plastic or fiberboard covers with binding mechanism concealed inside the Manual; 3-ring binders will be acceptable; all binding is subject to the Architect's approval.
 7. Measurements: Provide all measurements in U.S. standard units such as feet-and-inches, lbs, and cfm; where items may be expected to be measured within ten years in accordance with metric formulae, provide additional measurements in the "International System of Units" (SI).
- C. Provide front and back covers for each Manual, using durable material approved by the Architect, and clearly identified on or through the cover with at least the following information:

OPERATING AND MAINTENANCE INSTRUCTIONS

(_____)
 (name and address of Work)
 (_____)
 (name of Contractor)
 (_____)
 (general subject of this Manual)
 (_____)
 (_____ space for signature of _____)
 (the Architect, and approval date)

- D. Contents: Include at least the following:
1. Neatly typewritten index near the front of the Manual, giving immediate information as to location within the Manual of all emergency information regarding the installation.
 2. Complete instructions regarding operation and maintenance of all equipment involved including lubrication, disassembly, and reassembly.
 3. Complete nomenclature of all parts of the equipment.

OPERATION AND MAINTENANCE DATA

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4. Complete nomenclature and part number of all replaceable parts, name and address of nearest vendor, and all other data pertinent to procurement procedures.
5. Copy of all guarantees and warranties issued.
6. Manufacturers' bulletins, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, all manufacturers' data with which this installation is not concerned.
7. Such other data as required in pertinent other Sections of these Specifications.

PART 3 - EXECUTION

3.1 INSTRUCTION MANUALS

- A. Preliminary:
 1. Prepare a preliminary draft of each proposed Manual.
 2. Show general arrangement, nature of contents in each portion, probable number of drawings and their size, and proposed method of binding and covering.
 3. Secure the Architect's approval prior to proceeding.
- B. Final: Complete the Manuals in strict accordance with the approved preliminary drafts and the Architect's review comments.
- C. Revisions:
 1. Following the indoctrination and instruction of operation and maintenance personnel, review all proposed revisions of the Manual with the Architect.
 2. If the Contractor is required by the Architect to revise previously approved Manuals, compensation will be made as provided for under "Changes" in the General Conditions.

END OF SECTION

SECTION 02110

CLEARING

PART 1 - GENERAL

1.1 SUMMARY

- A. Clear and grub the site as shown on the Drawings and specified in this Section.
- 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. Section 02220: Backfilling and compacting.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. Provide materials, not specifically described but required for proper completion of the work of this Section, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 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.

3.2 PROTECTION

- A. Protect existing utilities indicated or made known.
- B. Protect trees and shrubs, where indicated to remain, by providing a fence around the tree or shrub of sufficient distance away and of sufficient height so trees and shrubs will not be damaged in any way as part of this Work.
- C. Protection of persons and property:
 - 1. Barricade open depressions and holes occurring as part of this Work, and post warning lights on property adjacent to or with public access.
 - 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
 - 3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, undermining, washout, and other hazards created by operations under this Section.
- D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
- E. Maintain access to the site at all times.

3.3 CLEARING

- A. Clean out roots 1" in diameter and larger to a depth of at least 12" below the existing ground surface or subgrade of new graded surface, whichever is lower. Treat roots remaining in the soil with a weed killer approved by the Architect.

3.4 CONSERVATION OF TOPSOIL

- A. After the area has been cleared of vegetation, strip the existing topsoil to the depth necessary to provide at least 6" depth of topsoil in areas shown on the Drawings to be turfed or planted, and to fill planters, without contamination with subsoils.
- B. Stockpile in an area clear of new construction.
- C. Maintain the stockpile in a manner which will not obstruct the natural flow of drainage.
 - 1. Maintain stockpile free from debris and trash.
 - 2. Keep the topsoil damp to prevent dust and drying out.

3.5 DISPOSAL

A. General:

1. Remove brush, grass, roots, trash, and other material from clearing operations.
2. Dispose of away from the site in a legal manner.
3. Do not store or permit debris to accumulate on the job site.

B. Do not burn debris at the site.

3.6 UTILITIES

- A. Coordinate with utility companies and agencies as required.
- B. Where utility cutting, capping, or plugging is required, perform such work in accordance with requirements of the utility company or governmental agency having jurisdiction.

END OF SECTION

SECTION 02210

GRADING

PART 1 - GENERAL

1.1 SUMMARY

- A. In accordance with pertinent provisions of this Section, excavate, backfill, compact, and grade the site to the elevations shown on the Drawings and as needed to meet the requirements of the construction shown in the Contract Documents.
- 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. Section 02010: Soils report and soil engineer.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.
- C. In addition to complying with requirements of governmental agencies having jurisdiction, comply with the directions of the soils engineer.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Fill and backfill materials:
 - 1. Provide soil materials free from organic matter and deleterious substances, containing no rocks or lumps over 4" in greatest dimension.
 - 2. All fill material shall be submitted for approval to the Soils Engineer at least 48 hours prior to delivery to the site; have a plasticity index less than

- 10 and a UBC Expansion Index less than 15; and shall be predominantly granular non-expansive soils, free from roots and other deleterious matter.
3. Do not permit rocks having a dimension greater than 1" in the upper 12" of fill or embankment.
 4. Cohesionless material used for structural backfill: Provide sand free from organic material and other foreign matter, and as approved by the construction soil engineer.

2.2 WEED KILLER

- A. Provide a dry, free-flowing, dust-free chemical compound, soluble in water, capable of inhibiting growth of vegetation, and approved for use on this Work by governmental agencies having jurisdiction.

2.3 TOPSOIL

- A. Where and if shown on the Drawings or otherwise required, provide topsoil consisting of friable, fertile soil of loamy character, containing an amount of organic matter normal to the region, capable of sustaining healthy plant life, and reasonably free from subsoils, roots, heavy or stiff clay, stones larger than 2" in greatest dimension, noxious weeds, sticks, brush, litter, and other deleterious matter.
- B. Obtain topsoil from sources within the project limits, or provide imported topsoil obtained from sources outside the project limits, or from both sources.

PART 3 - EXECUTION

3.1 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.

3.2 FINISH ELEVATIONS AND LINES

- A. Comply with pertinent provisions of Section 01050.

3.3 PROCEDURES

- A. Utilities:
 1. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to excavating. If damaged, repair or replace at no additional cost to the Owner.

2. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
 3. If service is interrupted as a result of work under this Section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.
 4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Architect and secure his instructions.
 5. Do not proceed with permanent relocation of utilities until written instructions are received from the Architect.
- B. Protection of persons and property:
1. Barricade open holes and depressions occurring as part of this Work, and post warning lights on property adjacent to or with public access.
 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
 3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
- C. Dewatering:
1. Remove all water, including rain water, encountered during trench and substructure work to an approved location by pumps, drains, and other approved methods.
 2. Keep excavations and site construction area free from water.
- D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
- E. Maintain access to adjacent areas at all times.

3.4 EXCAVATING

- A. Perform excavating of every type of material encountered within the limits of the Work to the lines, grades, and elevations indicated and specified herein.
- B. Satisfactory excavated materials:
1. Transport to, and place in, fill or embankment areas within the limits of the Work.
- C. Unsatisfactory excavated materials:
1. Excavate to a distance below grade as directed by the construction soil engineer, and replace with satisfactory materials.
 2. Include excavation of unsatisfactory materials, and replacement by

satisfactory materials, as parts of the work of this Section.

- D. Surplus materials:
 - 1. Dispose of unsatisfactory excavated materials, and surplus satisfactory excavated material, away from the site at disposal areas arranged and paid for by the Contractor.
- E. Excavation of rock:
 - 1. Where rocks, boulders, granite, or similar material is encountered, and where such material cannot be removed or excavated by conventional earth moving or ripping equipment, take required steps to proceed with the general grading operations of the Work, and remove or excavate such material by means which will neither cause additional cost to the Owner nor endanger buildings or structures whether on or off the site.
 - 2. Do not use explosives without written permission from the Architect.
- F. Excavate and backfill in a manner and sequence that will provide proper drainage at all times.
- G. Ditches and gutters:
 - 1. Cut accurately to the cross sections, grades, and elevations shown.
 - 2. Maintain excavations free from detrimental quantities of leaves, sticks, trash, and other debris until completion of the Work.
 - 3. Dispose of excavated materials as shown on the Drawings or directed by the construction soil engineer; except do not, in any case, deposit materials less than 3'-0" from the edge of a ditch.
- H. Unauthorized excavation:
 - 1. Unauthorized excavation consists of removal of materials beyond indicated sub-grade elevations or dimensions without specific instruction from the Architect or the construction soil engineer.
 - 2. Under footings, foundations, or retaining walls:
 - a. Fill unauthorized excavation by extending the indicated bottom elevation of the footing or base to the excavation bottom, without altering the required top elevation.
 - b. When acceptable to the construction soil engineer, lean concrete fill may be used to bring bottom elevations to proper position.
 - 3. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations, unless otherwise directed by the construction soil engineer.
- I. Stability of excavations:
 - 1. Slope sides of excavation to 1:1 or flatter, unless otherwise directed by the construction soil engineer.
 - 2. Shore and brace where sloping is not possible because of space

- restrictions or stability of the materials being excavated.
3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- J. Shoring and bracing:
1. Provide materials for shoring and bracing as may be necessary for safety or personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
 2. Maintain shoring and bracing in excavations regardless of the time period excavations will be open.
 3. Carry shoring and bracing down as excavation progresses.

3.5 FILLING AND BACKFILLING

- A. Backfill excavations as promptly as progress of the Work permits, but not until:
1. Acceptance of construction below finish grade:
 2. Inspecting, testing, approving, and recording locations of underground utilities;
 3. Concrete formwork is removed;
 4. Shoring and bracing are removed, and voids have been backfilled with satisfactory materials;
 5. Trash and debris have been removed; and
 6. Horizontal bracing is in place on horizontally supported walls.
- B. Ground surface preparation:
1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious materials from the ground surface prior to placement of fills.
 2. Plow, strip, or break up surfaces steeper than one vertical to four horizontal, so that fill material will bond with existing surface.
 3. When existing ground surface has a density less than that specified under "compacting" for the particular area, break up the ground surface, pulverize, moisture condition to the optimum moisture content, and compact to required depth and percentage of maximum density.
 4. At exposed soils in areas to be paved, scarify to a minimum depth of 6", and re-compact at a moisture content that will permit proper compaction as specified for fill.
- C. Placing and compacting:
1. Place backfill and fill materials in layers not more than 8" in loose depth.
 2. Before compacting, moisten or aerate each layer as necessary to provide the optimum moisture content.
 3. Compact each layer to required percentage of maximum density for the area.
 4. Do not place backfill or fill material on surfaces that are muddy, frozen, or

- containing frost or ice.
- 5. Place backfill and fill materials evenly adjacent to structures, to required elevations.
- 6. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structures to approximately the same elevation in each lift.

3.6 GRADING

A. General:

- 1. Uniformly grade the areas within limits of grading under this Section, including adjacent transition areas.
- 2. Smooth the finished surfaces within specified tolerance.
- 3. Compact with uniform levels or slopes between points where elevations are shown on the Drawings, or between such points and existing grades.
- 4. Where a change of slope is indicated on the Drawings, construct a rolled transition section having a minimum radius of approximately 8'-0", unless adjacent construction will not permit such a transition, or if such a transition defeats positive control of drainage.

B. Grading outside building lines:

- 1. Grade areas adjacent to buildings to achieve drainage away from the structures, and to prevent ponding.
- 2. Finish the surfaces to be free from irregular surface changes, and:
 - a. Shape the surface of areas scheduled to be under walks to line, grade, and cross-section, with finished surface not more than 0.10 ft above or below the required subgrade elevation.
 - b. Shape the surface of areas scheduled to be under pavement to line, grade, and cross-section, with finished surface not more than 0.05 ft above or below the required subgrade elevation.

3.7 COMPACTING

- A. Control soil compaction during construction to provide the minimum percentage of density specified for each area as determined according to ASTM D1557.
- B. Provide not less than the following maximum density of soil material compacted at optimum moisture content for the actual density of each layer of soil material in place, and as approved by the construction soil engineer.
 - 1. Structures:
 - a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
 - 2. Lawn and unpaved areas:
 - a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density;

- b. Compact the upper 12" of filled areas, or natural soils exposed by excavating, at 85% of maximum density.
 - 3. Walks:
 - a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
 - 4. Pavements:
 - a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 95% of maximum density for cohesive soil material.
- C. Moisture control:
 - 1. Where subgrade or layer of soil material must be moisture-conditioned before compacting, uniformly apply water to surface of subgrade or layer of soil material to prevent free water appearing on surface during or subsequent to compacting operations.
 - 2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compacting to the specified density.
 - 3. Soil material that has been removed because it is too wet to permit compacting may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory value as determined by moisture density relation tests approved by the construction soil engineer.

3.8 FIELD QUALITY CONTROL

- A. Secure the construction soil engineer's inspection and approval of sub-grades and fill layers before subsequent construction is permitted thereon.
- B. Provide at least the following tests to the approval of the construction soil engineer:
 - 1. At paved areas, at least one field density test for every 2,000 sq ft of paved area, but not less than three tests;
 - 2. In each compacted fill layer, one field density test for every 2,000 sq ft of overlaying paved area, but not less than three tests.
- C. If, in the construction soil engineer's opinion based on reports of the testing laboratory, sub-grade or fills which have been placed are below specified density, provide additional compacting and testing under the provisions of Section 01410 of these Specifications.

3.9 MAINTENANCE

- A. Protection of newly graded areas:
 - 1. Protect newly graded areas from traffic and erosion, and keep free from

- trash and weeds;
- 2. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.

- B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

3.10 CERTIFICATION

- A. Upon completion of this portion of the Work, and as a condition of its acceptance, deliver to the Architect a written report from the construction soil engineer certifying that the compaction requirements have been obtained. State in the report the area of fill or embankment, the compaction density obtained, and the type or classification of fill material placed.

END OF SECTION

SECTION 02220

EXCAVATING, BACKFILLING, AND COMPACTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Excavate, backfill, compact, and grade the site to the elevations shown on the Drawings, as specified herein, and as needed to meet the requirements of the construction shown in the Contract Documents.
- 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 I of these Specifications.
 - 2. Section 02010: Soils report and soil engineer.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish the work of this Section in a timely manner.
- C. In addition to complying with requirements of governmental agencies having jurisdiction, comply with the directions of the soil engineer.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Fill and backfill materials:
 - 1. Provide soil materials free from organic matter and deleterious substances, containing no rocks or lumps over 4" in greatest dimension.

2. All fill material shall be submitted for approval to the Soils Engineer at least 48 hours prior to delivery to the site; have a plasticity index less than 10 and a UBC Expansion Index less than 15; and shall be predominantly granular non-expansive soils, free from roots and other deleterious matter.
3. Do not permit rocks having a dimension greater than 1" in the upper 12" of fill or embankment.
4. Cohesionless material used for structural backfill: Provide sand free from organic material and other foreign matter, and as approved by the construction soil engineer.

2.2 WEED KILLER

- A. Provide a dry, free-flowing, dust-free chemical compound, soluble in water, capable of inhibiting growth of vegetation, and approved for use on this Work by governmental agencies having jurisdiction.

2.3 TOPSOIL

- A. Where and if shown on the Drawings or otherwise required, provide topsoil consisting of friable, fertile soil of loamy character, containing an amount of organic matter normal to the region, capable of sustaining healthy plant life, and reasonably free from subsoil, roots, heavy or stiff clay, stones larger than 2" in greatest dimension, noxious weeds, sticks, brush, litter, and other deleterious matter.
- B. Obtain topsoil from sources within the project limits, or provide imported topsoil obtained from sources outside the project limits, or from both sources.

2.4 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 approval of the Architect.

PART 3 - EXECUTION

3.1 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.

3.2 FINISH ELEVATIONS AND LINES

- A. Comply with pertinent provisions of Section 01050.

EXCAVATING, BACKFILLING, AND COMPACTING

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3.3 PROCEDURES

- A. Utilities:
 - 1. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to excavating. If damaged, repair or replace at no additional cost to the Owner.
 - 2. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
 - 3. If service is interrupted as a result of work under this Section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.
 - 4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Architect and secure his instructions.
 - 5. Do not proceed with permanent relocation of utilities until written instructions are received from the Architect.

- B. Protection of persons and property:
 - 1. Barricade open holes and depressions occurring as part of the Work, and post warning lights on property adjacent to or with public access.
 - 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
 - 3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.

- C. Dewatering:
 - 1. Remove all water, including rain water, encountered during trench and sub-structure work to an approved location by pumps, drains, and other approved methods.
 - 2. Keep excavations and site construction area free from water.

- D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.

- E. Maintain access to adjacent areas at all times.

3.4 EXCAVATING

- A. Perform excavating of every type of material encountered within the limits of the Work to the lines, grades, and elevations indicated and specified herein.

- B. Satisfactory excavated materials:
 - 1. Transport to, and place in, fill or embankment areas within the limits of the Work.

EXCAVATING, BACKFILLING, AND COMPACTING

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- C. Unsatisfactory excavated materials:
 - 1. Excavate to a distance below grade as directed by the soil engineer, and replace with satisfactory materials.
 - 2. Include excavation of unsatisfactory materials, and replacement by satisfactory materials, as parts of the work of this Section.
- D. Surplus materials:
 - 1. Dispose of unsatisfactory excavated material, and surplus satisfactory excavated material, away from the site at disposal areas arranged and paid for by the Contractor.
- E. Excavation of rock:
 - 1. Where rocks, boulders, granite, or similar material is encountered, and where such material cannot be removed or excavated by conventional earth moving or ripping equipment, take required steps to proceed with the general grading operations of the Work, and remove or excavate such material by means which will neither cause additional cost to the Owner nor endanger buildings or structures whether on or off the site.
 - 2. Do not use explosives without written permission from the Architect.
- F. Excavate and backfill in a manner and sequence that will provide proper drainage at all times.
- G. Borrow:
 - 1. Obtain material required for fill or embankment in excess of that produced within the grading limits of the Work from borrow areas selected and paid for by the Contractor and approved by the soil engineer.
- H. Ditches and gutters:
 - 1. Cut accurately to the cross sections, grades, and elevations shown.
 - 2. Maintain excavations free from detrimental quantities of leaves, sticks, trash, and other debris until completion of the Work.
 - 3. Dispose of excavated materials as shown on the Drawings or directed by the soil engineer; except do not, in any case, deposit materials less than 3'-0" from the edge of a ditch.
- I. Unauthorized excavation:
 - 1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific instruction from the Architect or the soil engineer.
 - 2. Under footings, foundations, or retaining walls:
 - a. Fill unauthorized excavations by extending the indicated bottom elevation of the footing or base to the excavation bottom, without altering the required top elevation.
 - b. When acceptable to the soil engineer, lean concrete fill may be used to bring the bottom elevation to proper position.

3. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations, unless otherwise directed by the soil engineer.
- J. Stability of excavations:
1. Slope sides of excavations to 1:1 or flatter, unless otherwise directed by the soil engineer.
 2. Shore and brace where sloping is not possible because of space restrictions or stability of the materials being excavated.
 3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- K. Shoring and bracing:
1. Provide materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
 2. Maintain shoring and bracing in excavations regardless of the time period excavations will be open.
 3. Carry shoring and bracing down as excavation progresses.
- L. Excavating for structures:
1. Conform to elevations and dimensions shown within a tolerance of 0.10 ft, and extending a sufficient distance from footings and foundations to permit placing and removing concrete formwork, installation of services, other construction required, and for inspection.
 2. In excavating for footings and foundations, take care not to disturb bottom of excavation:
 - a. Excavate by hand tools to final grade just before concrete is placed.
 - b. Trim bottoms to required lines and grades to leave solid base to receive concrete.
 3. Excavate for footings and foundations only after general site excavating, filling, and grading are complete.
- M. Excavating for pavements:
1. Cut surface under pavements to comply with cross sections, elevations, and grades.
- N. Cold weather protection:
1. Protect excavation bottoms against freezing when atmospheric temperature is less than 35 degrees F.

3.5 FILLING AND BACKFILLING

EXCAVATING, BACKFILLING, AND COMPACTING 02220-5

- A. General:
 - 1. For each classification listed below, place acceptable soil material in layers to required subgrade elevations.
 - 2. In excavations:
 - a. Use satisfactory excavated or borrow material.
 - 3. Under asphalt pavements:
 - a. Use subbase materials.
 - 4. Under building slabs:
 - a. Use granular fill, if so called for on the Drawings, complying with aggregate acceptable under Section 03300 of these Specifications.
- B. Backfill excavations as promptly as progress of the Work permits, but not until completion of the following.
 - 1. Acceptance of construction below finish grade including, where applicable, dampproofing and waterproofing.
 - 2. Inspecting, testing, approving, and recording locations of underground utilities.
 - 3. Removing concrete formwork.
 - 4. Removing shoring and bracing, and backfilling of voids with satisfactory materials.
 - 5. Removing trash and debris.
 - 6. Placement of horizontal bracing on horizontally supported walls.
- C. Ground surface preparation:
 - 1. Remove vegetation, debris, unsatisfactory soil materials, obstructions, and deleterious matter from ground surface prior to placement of fills.
 - 2. Plow, strip, or break up sloped surfaces steeper than one vertical to four horizontal so that fill material will bond with existing surface.
 - 3. When existing ground surface has a density less than that specified under "compacting" for the particular area, break up the ground surface, pulverize, moisturecondition to the optimum moisture content, and compact to required depth and percentage of maximum density.
- D. Placing and compacting:
 - 1. Place backfill and fill materials in layers not more than 8" in loose depth.
 - 2. Before compacting, moisten or aerate each layer as necessary to provide the optimum moisture content.
 - 3. Compact each layer to required percentage of maximum density for area.
 - 4. Do not place backfill or fill material on surfaces that are muddy, frozen, or containing frost or ice.
 - 5. Place backfill and fill materials evenly adjacent to structures, to required elevations.
 - 6. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structure to approximately the same elevation in eachlift.
 - 7. Where the construction includes basement or other underground walls

having structural floors over them, do not backfill such walls until the structural floors are in place and have attained sufficient strength to support the walls.

3.6 GRADING

A. General:

1. Uniformly grade the areas within limits of grading under this Section, including adjacent transition areas.
2. Smooth the finished surfaces within specified tolerance.
3. Compact with uniform levels or slopes between points where elevations are shown on the Drawings, or between such points and existing grades.
4. Where a change of slope is indicated on the Drawings, construct a rolled transition section having a minimum radius of approximately 8'-0", unless adjacent construction will not permit such a transition, or if such a transition defeats positive control of drainage.

B. Grading outside building lines:

1. Grade areas adjacent to buildings to achieve drainage away from the structures, and to prevent ponding.
2. Finish the surfaces to be free from irregular surface changes, and:
 - a. Shape the surface of areas scheduled to be under walks to line, grade, and cross-section, with finished surface not more than 0.10 ft above or below the required subgrade elevation.
 - b. Shape the surface of areas scheduled to be under pavement to line, grade, and cross-section, with finished surface not more than 0.05 ft above or below the required subgrade elevation.

3.7 COMPACTING

A. Control soil compaction during construction to provide the minimum percentage of density specified for each area as determined according to ASTM D1557.

B. Provide not less than the following maximum density of soil material compacted at optimum moisture content for the actual density of each layer of soil material in place, and as approved by the soil engineer.

1. Structures:

- a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.

2. Lawn and unpaved areas:

- a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
- b. Compact the upper 12" of filled areas, or natural soils exposed by excavating, at 85% of maximum density.

3. Walks:

- a. Compact the top 8" of subgrade and each layer of fill material or backfill

- material at 90% of maximum density.
4. Pavements:
 - a. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
- C. Moisture control:
1. Where subgrade or layer of soil material must be moisture-conditioned before compacting, uniformly apply water to surface of subgrade or layer of soil material to prevent free water appearing on surface during or subsequent to compacting operations.
 2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compacting to the specified density.
 3. Soil material that has been removed because it is too wet to permit compacting may be stockpiled or spread and allowed to dry. Assist drying by discing, harrowing, or pulverizing until moisture content is reduced to a satisfactory value as determined by moisturedensity relation tests approved by the soil engineer.

3.8 FIELD QUALITY CONTROL

- A. Secure the soil engineer's inspection and approval of subgrades and fill layers before subsequent construction is permitted thereon.
- B. Provide at least the following tests to the approval of the soil engineer:
 1. At paved areas, at least one field density test for every 2,000 sq ft of paved area, but not less than three tests;
 2. In each compacted fill layer, one field density test for every 2,000 sq ft of overlaying paved area, but not less than three tests.
- C. If, in the soil engineer's opinion based on reports of the testing laboratory, subgrade or fills which have been placed are below specified density, provide additional compacting and testing under the provisions of Section 01410 of these Specifications.

3.9 MAINTENANCE

- A. Protection of newly graded areas:
 1. Protect newly graded areas from traffic and erosion, and keep free from trash and weeds;
 2. Repair and reestablish grades in settled, eroded, and rutted areas to the specified tolerances.
- B. Where completed compacted areas are disturbed by subsequent construction operations or adverse weather, scarify the surface, reshape, and compact to the required density prior to further construction.

3.10 CERTIFICATION

- A. Upon completion of this portion of the Work, and as a condition of its acceptance, deliver to the Architect a written report from the soil engineer certifying that the compaction requirements have been obtained. State in the report the area of fill or embankment, the compaction density obtained, and the type or classification of fill material placed.

END OF SECTION

SECTION 02221

TRENCHING, BACKFILLING, AND COMPACTING

PART 1 - GENERAL

1.1 SUMMARY

- A. Trench, backfill, and compact as specified herein and as needed for installation of underground utilities associated with the Work.
- 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 I of these Specifications.
 - 2. Section 02010: Soils report and soil engineer.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Use equipment adequate in size, capacity, and numbers to accomplish the work in a timely manner.
- C. In addition to complying with requirements of governmental agencies having jurisdiction, comply with the directions of the construction soil engineer.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 SOIL MATERIALS

- A. Fill and backfill materials:
 - 1. Provide soil materials free from organic matter and deleterious substances, containing no rocks or lumps over 4" in greatest dimension.
 - 2. All fill material shall be submitted for approval to the Soils Engineer at least 48 hours prior to delivery to the site; have a plasticity index less than 10 and a UBC Expansion Index less than 15; and shall be predominantly granular non-expansive soils, free from roots and other deleterious matter.
 - 3. Do not permit rocks having a dimension greater than 1" in the upper 12" of fill or embankment.

4. Cohesionless material used for structural backfill: Provide sand free from organic material and other foreign matter, and as approved by the construction soil engineer.

2.2 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 approval of the Architect.

PART 3 - EXECUTION

3.1 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.

3.2 FINISH ELEVATIONS AND LINES

- A. Comply with pertinent provision of Section 01050.

3.3 PROCEDURES

- A. Utilities:
 1. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to trenching. If damaged, repair or replace at no additional cost to the Owner.
 2. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
 3. If service is interrupted as a result of work under this Section, immediately restore service by repairing the damaged utility at no additional cost to the Owner.
 4. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Architect and secure his instructions.
 5. Do not proceed with permanent relocation of utilities until written instructions are received from the Architect.
- B. Protection of persons and property:
 1. Barricade open holes and depressions occurring as part of the Work, and post warning lights on property adjacent to or with public access.
 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
 3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.

- C. Dewatering:
 - 1. Remove all water, including rain water, encountered during trench and sub-structure work to an approved location by pumps, drains, and other approved methods.
 - 2. Keep trenches and site construction area free from water.
- D. Use means necessary to prevent dust becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
- E. Maintain access to adjacent areas at all times.

3.4 TRENCHING

- A. Comply with pertinent provisions of Section 02220, and the provisions of this Section.
- B. Provide sheeting and shoring necessary for protection of the Work and for the safety of personnel.
 - 1. Prior to backfilling, remove all sheeting.
 - 2. Do not permit sheeting to remain in the trenches except when, in the opinion of the Architect, field conditions or the type of sheeting or methods of construction such as use of concrete bedding are such as to make removal of sheeting impracticable. In such cases, the Architect may permit portions of sheeting to be cut off and remain in the trench.
- C. Open cut:
 - 1. Excavate for utilities by open cut.
 - 2. If conditions at the site prevent such open cut, and if approved by the Architect, trenching may be used.
 - 3. Short sections of a trench may be tunneled if, in the opinion of the Architect, the conductor can be installed safely and backfill can be compacted properly into such tunnel.
 - 4. Where it becomes necessary to excavate beyond the limits of normal excavation lines in order to remove boulders or other interfering objects, backfill the voids remaining after removal of the objects as directed by the construction soil engineer.
 - 5. When the void is below the subgrade for the utility bedding, use suitable earth materials and compact to the relative density directed by the construction soil engineer, but in no case to a relative density less than 90%.
 - 6. When the void is in the side of the utility trench or open cut, use suitable earth or sand compacted or consolidated as approved by the construction soil engineer, but in no case to a relative density less than 80%.
 - 7. Remove boulders and other interfering objects, and backfill voids left by such removals, at no additional cost to the Owner.
 - 8. Excavating for appurtenances:
 - a. Excavate for manholes and similar structures to a distance sufficient to leave at least 12" clear between outer surfaces and the embankment or shoring that may be used to hold and protect the banks.
 - b. Over-depth excavation beyond such appurtenances that has not been

directed will be considered unauthorized. Fill with sand, gravel, or lean concrete as directed by the construction soil engineer, and at no additional cost to the Owner.

- D. Trench to the minimum width necessary for proper installation of the utility, with sides as nearly vertical as possible. Accurately grade the bottom to provide uniform bearing for the utility.
- E. Depressions:
 - 1. Dig bell holes and depressions for joints after the trench has been graded. Provide uniform bearing for the pipe on prepared bottom of the trench.
 - 2. Except where rock is encountered, do not excavate below the depth indicated or specified.
 - 3. Where rock is encountered, excavate rock to a minimum over-depth of 4" below the trench depth indicated or specified.
- F. Where utility runs traverse public property or are subject to governmental or utility company jurisdiction, provide depth, bedding, over, and other requirements as set forth by legally constituted authority having jurisdiction, but in no case less than the depth shown in the Contract Documents.
- G. Where trenching occurs in existing lawns, remove turf in sections and keep damp. Replace turf upon completion of the backfilling.
- H. Cover:
 - 1. Provide minimum trench depth indicated below to maintain a minimum cover over the top of the installed item below the finish grade or sub-grade:
 - a. Areas subject to vehicular traffic:
 - (1) Sanitary sewers: 48";
 - (2) Storm drains: 36".
 - b. Areas not subject to vehicular traffic:
 - (1) Sanitary sewers: 30";
 - (2) Storm drains: 18".
 - c. All areas:
 - (1) Water lines: 30";
 - (2) Natural gas lines: 24";
 - (3) Electrical cables: 42";
 - (4) Electrical ducts: 36".
 - d. Concrete encased:
 - (1) Pipe sleeves for water and gas lines: 24";
 - (2) Sanitary sewers and storm drains: 12";
 - (3) Electrical ducts: 24".
 - 2. Where utilities are under a concrete structure slab or pavement, the minimum depth need only be sufficient to completely encase the conduit or pipe sleeve, and electrical long-radius rigid metal conduit riser, provided it will not interfere with the structural integrity of the slab or pavement.
 - 3. Where the minimum cover is not provided, encase the pipes in concrete as indicated. Provide concrete with a minimum 28 day compressive strength of 2500 psi.

3.5 BEDDING

- A. Provide bedding as indicated on the Drawings.

3.6 BACKFILLING

A. General:

1. Do not completely backfill trenches until required pressure and leakage tests have been performed, and until the utilities systems as installed conform to the requirements specified in the pertinent Sections of these Specifications.
2. Except as otherwise specified or directed for special conditions, backfill trenches to the ground surface with selected material approved by the construction soil engineer.
3. Reopen trenches which have been improperly backfilled, to a depth as required for proper compaction. Refill and compact as specified, or otherwise correct to the approval of the construction soil engineer.
4. Do not allow or cause any of the Work performed or installed to be covered up or enclosed by work of this Section prior to required inspections, tests, and approvals.
5. Should any of the Work be so enclosed or covered up before it has been approved, uncover all such Work and, after approvals have been made, refill and compact as specified, all at no additional cost to the Owner.

B. Lower portion of trench:

1. Deposit approved backfill and bedding material in layers of 6" maximum thickness, and compact with suitable tampers to the density of the adjacent soil, or grade as specified herein, until there is a cover of not less than 24" over sewers and 12" over other utility lines.
2. Take special care in backfilling and bedding operations to not damage pipe and pipe coatings.

C. Remainder of trench:

1. Except for special materials for pavements, backfill the remainder of the trench with material free from stones larger than 6" or 1/2 the layered thickness, whichever is smaller, in any dimension.
2. Deposit backfill material in layers not exceeding the thickness specified, and compact each layer to the minimum density directed by the construction soil engineer.

D. Adjacent to buildings: Mechanically compact backfill within ten feet of buildings.

- E. Consolidation of backfill by jetting with water may be permitted, when specifically approved by the construction soil engineer, in areas other than building and pavement areas.

3.7 TEST FOR DISPLACEMENT OF SEWERS AND STORMDRAINS

- A. Check sewers and storm drains to determine whether displacement has occurred after the trench has been backfilled to above the pipe and has been compacted

as specified.

- B. Flash a light between manholes or, if the manholes have not yet been constructed, between the locations of the manholes, by means of a flashlight or by reflecting sunlight with a mirror.
- C. If the illuminated interior of the pipe line shows poor alignment, displaced pipes, or any other defects, correct the defects to the specified conditions and at no additional cost to the Owner.

3.8 PIPE JACKING

- A. The Contractor may, at his option, install steel pipe casings, tongue-and-groove reinforced concrete pipes, and steel pipes under existing roads or pavements by jacking into place using procedures approved by the governmental agencies having jurisdiction and approved by the construction soil engineer.

3.9 TUNNELING OPERATIONS

- A. The Contractor may, at his option, tunnel pipes into position using procedures approved by the construction soil engineer and the governmental agencies having jurisdiction.

3.10 FIELD QUALITY CONTROL

- A. The construction soil engineer will inspect open cuts and trenches before installation of utilities, and will make the following tests:
 1. Assure that trenches are not backfilled until all tests have been completed;
 2. Check backfilling for proper layer thickness and compaction;
 3. Verify that test results conform to the specified requirements, and that sufficient tests are performed;
 4. Assure that defective work is removed and properly replaced.

END OF SECTION

SECTION 02281
TERMITE CONTROL

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide soil poisoning to control subterranean termites as specified herein and needed for a complete and proper treatment.
- 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 I of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 35 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;
 - 3. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Qualifications of subcontractor:
 - 1. Properly licensed to provide such services by governmental agencies having jurisdiction.
 - 2. Not less than five years successful experience in soil treatment for subterranean termites.

1.4 WARRANTY

- A. Upon completion of the Work, and as a condition of its acceptance, deliver to the Architect two copies of a Warranty signed by an authorized representative of the installing subcontractor, and co-signed by the Contractor, agreeing:
 - 1. To make an inspection of the Work once each year for a total period of five years following Date of Substantial Completion for the purpose of detecting termite infestation;
 - 2. If termite infestation is found during that five year period, to retreat in

- accordance with prevailing practices of the trade and within ten calendar days after such infestation is discovered;
3. To repair damage to the Work caused by subterranean termites during that five year period, to a maximum cost of \$5,000;
 4. To make such inspections, re-treatment, and repairs at no additional cost to the Owner.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 MATERIALS

- A. To the extent approved by governmental agencies having jurisdiction, use working solutions containing any one of the following chemicals at the listed minimum concentration:

1. Torpedo	1.0%
2. Tribute	0.5% to 1.0%
3. Dragnet FT	1.0%
4. Prevail FT	0.3% to 0.6%
5. Demon T.C.	1.0%
6. Premise	1.0%
7. Dursban	1.0%
- B. If combinations of toxicants are approved by governmental agencies having jurisdiction, provide toxicants having such approval and in the maximum strength so approved, at no additional cost to the Owner.

PART 3 - EXECUTION

3.1 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.

3.2 APPLICATION

- A. Begin soil poisoning only after all preparation for slab placement is complete.
- B. Slabs on grade:
 1. Apply toxicant as an overall treatment at the minimum rate of one gallon of toxicant to each 10 sq ft of area under slabs on grade within building lines.
- C. Utility entrances:
 1. Apply toxicant at the rate of two gallons of toxicant per five lin ft at critical locations such as where utilities pass through exterior walls and through floor slabs.
 2. Extend treatment not less than 48" from wall into trench.

- D. Walls:
1. Apply toxicant at the rate of two gallons of toxicant per five lin ft along both sides of all foundations walls, cross walls, and grade beams, after all nearby excavation has been completed.
 2. Apply toxicant at the rate of one gallon of toxicant per five lin ft to voids in masonry walls.
- E. Miscellaneous: Apply toxicant at the rate of two gallons of toxicant per five lin ft at the following areas:
1. Immediately below expansion joints, control joints, and all areas where slab will be penetrated by construction features.
 2. Where exterior facings or veneers extend below grade level along the exterior side of all foundation walls.
 3. Where unit masonry foundation construction is used.
- F. If soil is disturbed after treatment, retreat disturbed areas.

END OF SECTION

SECTION 02580
PAVEMENT MARKING

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide pavement marking in the types and arrangements shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 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 I of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 60 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;
 - 3. Photographs, scale drawings, or other data acceptable to the Architect, showing types of graphics proposed to be used.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 PAVEMENT MARKING PAINT

- A. Provide paint specifically formulated for use as pavement marking in automobile traffic areas, and in the colors selected by the Architect from standard colors of the approved manufacturer.

- B. Acceptable products:
 - 1. "Traffic Paint" manufactured by J. E. Bauer Company.
 - 2. "Traffic Paint" manufactured by Tnemec.
 - 3. "Romark Traffic" manufactured by Glidden-Durkee.

2.2 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 approval of the Architect.

PART 3 - EXECUTION

3.1 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.

3.2 APPLICATION

- A. Secure the Architect's approval of graphics design and layout prior to start of application.
- B. Using proper masking, stencils, and application equipment recommended for the purpose by the manufacturer of the approved paint, apply the approved paint in strict accordance with its manufacturer's recommendations.

3.3 PROTECTION

- A. Provide traffic cones, barricades, and other devices needed to protect the paint until it is sufficiently dry to with-stand traffic.

3.4 CLEANUP

- A. When paint is thoroughly dry, visually inspect the entire application, and:
 - 1. Touchup as required to provide clean, straight lines and surfaces throughout.
 - 2. Using a permanently opaque paint identical in color to the surface on which the paint was applied, block out and eliminate all traces of splashed, tracked, and/or spilled pavement marking paint from the background surfaces.

END OF SECTION

PAVEMENT MARKING
02580-2

SECTION 03300
CAST-IN-PLACE CONCRETE

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide cast-in-place concrete, including formwork and reinforcement, where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 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.

1.2 SUBMITTALS

- A. Secure concrete mix designs from the testing laboratory in accordance with provisions of Section 01410, and submit to the Architect for review and approval.
- B. Distribute approved mix designs to testing laboratory, batch plant, job site, and governmental agencies having jurisdiction.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. Comply with "Specifications for Structural Concrete for Buildings," ACI 301, except as may be modified herein.
- C. Provide access for, and cooperate with, the inspector and testing laboratory described in Section 01410 of these Specifications.
- D. Do not commence placement of concrete until mix designs have been reviewed and approved by the Architect and all governmental agencies having jurisdiction, and until copies of the approved mix designs are at the job site and the batch plant.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 FORMS

- A. Design, erect, support, brace, and maintain formwork so it will safely support vertical and lateral loads which might be applied until such loads can be supported safely by the concrete structure.

- B. Construct forms to the exact sizes, shapes, lines, and dimensions shown, and as required to obtain accurate alignment, location, grades, and level and plumb work in the finished structure.

2.2 MOISTURE BARRIER

- A. Where so indicated on the Drawings, provide a moisture barrier consisting of:
 - 1. Four inches of clean dry sand, evenly spread as a cushion;
 - 2. "Visqueen" or equal 6 mil thick plastic sheeting, with all joints taped and sealed;
 - 3. Two inches of clean dry sand, evenly spread on top of the installed plastic sheeting.

2.3 REINFORCEMENT

- A. Comply with the following as minimums:
 - 1. Bars: ASTM A615, grade 60 for #4 and smaller, grade 60 for #5 and larger;
 - 2. Welded wire fabric: ASTM A185;
 - 3. Bending: ACI 318.
- B. Fabricate reinforcement to the required shapes and dimensions, within fabrication tolerances stated in the CRSI "Manual of Standard Practices."
- C. Do not use reinforcement having any of the following defects:
 - 1. Bar lengths, depths, or bends exceeding the specified fabricating tolerances;
 - 2. Bends or kinks not indicated on the Drawings or required for this Work;
 - 3. Bars with cross-section reduced due to excessive rust or other causes.

2.4 CONCRETE

- A. Comply with the following as minimums:
 - 1. Portland cement: ASTM C150, type I or II, low alkali.
 - 2. Aggregate, general:
 - a. ASTM C30, uniformly graded and clean;
 - b. Do not use aggregate known to cause excessive shrinkage.
 - 3. Aggregate, coarse: Crushed rock or washed gravel with minimum size between 3/4" and 1-1/2", and with a maximum size number 4.
 - 4. Aggregate, fine: Natural washed sand of hard and durable particles varying from fine to particles passing a 3/8" screen, of which at least 12% shall pass a 50-mesh screen.
 - 5. Water: Clean and potable.
- B. Provide concrete with the compressive strengths shown on the Drawings. When such strengths are not shown on the Drawings, provide the following as minimums:
 - 1. Concrete footings2500 psi
 - 2. Concrete slabs.....2500 psi
- C. Surface treatment:
 - 1. Where "sealer" or "hardener" is called for on the Drawings, provide "Ashford Formula" manufactured by Cure-crete Chemical Company of Orem, Utah and distributed by Martech Associates, 19836 Vintage Street, Chatsworth, California 91311 (213) 993-1163, and provide the manufacturer's standard written 20 year/10 year warranty (or approved equal).
 - 2. Except as otherwise directed by the Architect or shown on the Drawings, on all other concrete slab, driveway, and walkway surfaces provide "Hunt TLF" curing agent manufactured by Hunt Process Co., Inc. (or approved equal).

2.5 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 approval of the Architect.

PART 3 - EXECUTION

3.1 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.

3.2 REINFORCING

- A. Comply with the following, as well as the specified standards, for details and methods of reinforcing placement and supports.
 - 1. Clean reinforcement and remove loose dust and mill scale, earth, and other materials which reduce bond or destroy bond with concrete.
 - 2. Position, support, and secure reinforcement against displacement by forms, construction, and the concrete placement operations.
 - 3. Place reinforcement to obtain the required coverages for concrete protection.
 - 4. Install welded wire fabric in as long lengths as practicable, lapping adjoining pieces one full mesh minimum.
 - 5. Unless otherwise shown on the Drawings, or required by governmental agencies having jurisdiction, lap bars 24 diameters minimum.

3.3 EMBEDDED ITEMS

- A. Do not embed piping, other than electrical conduit, in structural concrete.
 - 1. Locate conduit to maintain maximum strength of the structure.
 - 2. Increase the thickness of the concrete if the outside diameter of the conduit exceeds 30% of the thickness of the concrete.
- B. Set bolts, inserts, and other required items in the concrete, accurately secured so they will not be displaced, and in the precise locations needed.

3.4 MIXING CONCRETE

- A. Transit mix the concrete in accordance with provisions of ASTM C94.
- B. Mixing water:
 - 1. At the batch plant, withhold 2-1/2 gal of water per cu yd of concrete.
 - 2. Upon arrival at the job site, add all or part of the withheld water (as required for proper slump) before the concrete is discharged from the mixer.
 - 3. Mix not less than five minutes after the withheld water has been added, and not less than one minute of that time immediately prior to discharge of the batch.
 - 4. Unless otherwise directed, provide 15 minutes total mixing time per batch after first addition of water.
- C. Do not use concrete that has stood for over 30 minutes after leaving the mixer, or concrete that is not placed within 60 minutes after water is first introduced into the mix.

3.5 PLACING CONCRETE

- A. Preparation:
 - 1. Remove foreign matter accumulated in the forms.
 - 2. Rigidly close openings left in the formwork.
 - 3. Wet wood forms sufficiently to tighten up cracks; wet other material sufficiently to maintain workability of the concrete.
 - 4. Use only clean tools.
- B. Conveying:
 - 1. Perform concrete placing at such a rate that concrete which is being integrated with fresh concrete is still plastic.
 - 2. Deposit concrete as nearly as practicable in its final location so as to avoid separation due to re-handling and flowing.
 - 3. Do not use concrete which becomes non-plastic and unworkable, or does not meet required quality control limits, or has been contaminated by foreign materials.
 - 4. Remove rejected concrete from the job site.
- C. Placing concrete slabs:
 - 1. Deposit and consolidate concrete slabs in a continuous operation, within limits of construction joints, until the placing of a panel or section is completed.
 - 2. Bring slab surfaces to the correct level with a straightedge, and then strike off.
 - 3. Use bullfloats or darbies to smooth the surface, leaving the surface free from bumps and hollows.
 - 4. Do not sprinkle water on the plastic surface. Do not disturb the slab surface prior to start of finishing operations.

3.6 CONSOLIDATION

- A. General:
 - 1. Consolidate each layer of concrete immediately after placing, by use of internal concrete vibrators supplemented by hand spading, rodding, or tamping.
 - 2. Do not vibrate forms or reinforcement.
 - 3. Do not use vibrators to transport concrete inside the forms.

3.7 JOINTS

- A. Construction joints:
 - 1. Do not use horizontal construction joints except as may be shown on the Drawings.
 - 2. If additional construction joints are found to be required, secure the Architect's approval of joint design and location prior to start of concrete placement.
- B. Expansion joints:
 - 1. Do not permit reinforcement or other embedded metal items that are being bonded with concrete (except dowels in floors bonded on only one side of the joints) to extend continuously through any expansion joint.
 - 2. Fill expansion joints full depth with expansion joint material approved by the Architect.

3.8 CONCRETE FINISHING

- A. Except as may be shown otherwise on the Drawings, provide the following finishes at the indicated locations:
 - 1. Scratch finish:
 - a. Apply to monolithic slab surfaces that are to receive concrete floor topping or mortar setting bed.
 - 2. Float finish:
 - a. Apply to monolithic slab surfaces that are to receive trowel finish and other finishes specified hereinafter, and to slab surfaces which are to be covered with insulation.
 - 3. Trowel finish:
 - a. Apply to monolithic slab surfaces that are to be exposed to view, unless otherwise shown, and to slab surfaces that are to be covered with resilient flooring, carpeting, paint, or other thin-film finish coating system.
 - 4. Non-slip broom finish:
 - a. Apply to walks, stairs, drives, ramps, and similar pedestrian and vehicular areas.

3.9 REMEDIAL WORK

- A. Repair or replace deficient work as directed by the Architect and at no additional cost to the Owner.

3.10 CONCRETE TESTS

- A. The General Contractor shall take cylinders from each slab poured and at his expense hire a lab to perform compression tests.
- B. Three identical test cylinders shall be taken for each 150 cubic yards of concrete, or fraction thereof, placed each day. Test job cylinders in accordance with U.B.C. 26-13 requirements. The approved testing laboratory shall test one cylinder at 7 days, and the second at 28 days. The third cylinder will be tested only on the Architects orders.
- C. Standard test ASTM C143 shall be used to measure slump.

END OF SECTION

SECTION 07600

FLASHING AND SHEET METAL

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide flashing and sheet metal not specifically described in other Sections of these Specifications but required to prevent penetration of water through the exterior shell of the building.
- 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 I of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 45 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;
 - 3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;
 - 4. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.
- B. In addition to complying with pertinent codes and regulations, comply with pertinent recommendations contained in current edition of "Architectural Sheet Metal Manual" published by the Sheet Metal and Air Conditioning Contractors National Association (SMACNA).

- C. Standard commercial items may be used for flashing, trim, reglets, and similar purposes provided such items meet or exceed the quality standards specified.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 MATERIALS AND GAGES

- A. Where sheet metal is required, and no material or gage is indicated on the Drawings, provide the highest quality and gage commensurate with the referenced standards.

2.2 GALVANIZED IRON

- A. Provide sheet metal or sheet iron of a standard brand of open-hearth copper-bearing steel, copper-molybdenum iron, or pure iron sheets.
- B. Zinc coating:
 - 1. Where galvanizing is required, provide zinc coating by hot-dip galvanize to all surfaces.
 - 2. Weight:
 - a. Provide not less than 1-1/4 oz per sq ft, nor more than 1-1/2 oz per sq ft, to surfaces required to be galvanized.
 - 3. Comply with ASTM A123-84.

2.3 NAILS, RIVETS, AND FASTENERS

- A. Use only soft iron rivets having rust-resistive coating, galvanized nails, and cadmium plated screws and washers in connection with galvanized iron and steel.

2.4 FLUX

- A. Where flux is required, use raw muriatic acid.

2.5 SOLDER

- A. Where solder is required, comply with ASTM B32.

2.6 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 approval of the

FLASHING AND SHEET METAL

Architect.

PART 3 - EXECUTION

3.1 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.

3.2 WORKMANSHIP

- A. General:
 - 1. Form sheet metal accurately and to the dimensions and shapes required, finishing molded and broken surfaces with true, sharp, and straight lines and angles and, where intercepting other members, coping to an accurate fit and soldering securely.
 - 2. Unless otherwise specifically permitted by the Architect, turn exposed edges back 1/2".
- B. Form, fabricate, and install sheet metal so as to adequately provide for expansion and contraction in the finished Work.
- C. Weatherproofing:
 - 1. Finish watertight and weather-tight where so required.
 - 2. Make lock seam work flat and true to line, sweating full of solder.
 - 3. Make lock seams and lap seams, when soldered, at least 1/2" wide.
 - 4. Where lap seams are not soldered, lap according to pitch, but in no case less than 3".
 - 5. Make flat and lap seams in the direction of flow.
- D. Joints:
 - 1. Join parts with rivets or sheet metal screws where necessary for strength and stiffness.
 - 2. Provide suitable watertight expansion joints for runs of more than 40'-0", except where closer spacing is indicated on the Drawings or required for proper installation.
- E. Nailing:
 - 1. Whenever possible, secure metal by means of clips or cleats, without nailing through the exterior metal.
 - 2. In general, space nails, rivets, and screws not more than 8" apart and, where exposed to the weather, use lead washers.
 - 3. For nailing into wood, use barbed roofing nails 1-1/4" long by 11 gage.

FLASHING AND SHEET METAL

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4. For nailing into concrete, use drilled plugholes and plugs.

3.3 EMBEDMENT

- A. Embed metal in connection with roofs in a solid bed of sealant, using materials and methods described in Section 07920 of these Specifications or other materials and methods approved in advance by the Architect.

3.4 SOLDERING

- A. General:
 1. Thoroughly clean and tin the joint materials prior to soldering.
 2. Perform soldering slowly, with a well heated copper, in order to heat the seams thoroughly and to completely fill them with solder.
 3. Perform soldering with a heavy soldering copper of blunt design, properly tinned for use.
 4. Make exposed soldering on finished surfaces neat, full flowing, and smooth.
- B. After soldering, thoroughly wash acid flux with a soda solution.

3.5 TESTS

- A. Upon request of the Architect, demonstrate by hose or standing water that the flashing and sheet metal are completely watertight.

END OF SECTION

SECTION 07920

SEALANTS AND CALKING

PART 1 - GENERAL

1.1 SUMMARY

- A. Throughout the Work, seal and calk joints where shown on the Drawings and elsewhere as required to provide a positive barrier against passage of moisture and passage of air.
- 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 I of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 45 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;
 - 3. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.
- C. Samples: Upon request of the Architect, submit Samples of each sealant, each backing material, each primer, and each bond breaker proposed to be used.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

SEALANTS AND CALKING

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- A. Comply with pertinent provisions of Section 01620.
- B. Do not retain at the job site material which has exceeded the shelf life recommended by its manufacturer.

PART 2 - PRODUCTS

2.1 SEALANTS

- A. Provide the following sealants, or equals approved in advance by the Architect, where called for on the Drawings or otherwise required for a complete and proper installation.
 - 1. Sealant Type A:
 - a. Self-leveling, complying with ASTM C920-79, grade P, class 25;
 - b. Acceptable products:
 - (1) "Vulkem 45, one-part;"
 - (2) "Vulkem 245, two-part;"
 - 2. Sealant Type B:
 - a. Non-sag, complying with ASTM C920-79, type S, grade NS, class 25, use NT, M, A, and O;
 - b. Acceptable products:
 - (1) "Vulkem 116, one-part;"
 - (2) "Vulkem 921, one-part;"
 - 3. Sealant Type C:
 - a. Non-sag, complying with ASTM C920-79, type S, grade NS, class 25, use NT, T, M, A, and O;
 - b. Acceptable products:
 - (1) "Vulkem 227, two-part;"
 - (2) "Vulkem 922, two-part;"
 - 4. Sealant Type D:
 - a. Silicone (vertical surfaces only), complying with Fed Spec TT-S-01543A, class A, low modulus;
 - b. Acceptable products:
 - (1) "Dow Corning 790 Sanitary Sealant;"
 - 5. Sealant Type E:
 - a. Acrylic latex, complying with ASTM C834-76;
 - b. Acceptable products:
 - (1) "Pecora AC 20";
 - 6. Sealant Type E:
 - a. Acoustical sealant;
 - b. Acceptable products:
 - (1) "W. W. Henry's 313;"
 - (2) "W. W. Henry's 413."
- B. For other services, provide products especially formulated for the proposed use and

SEALANTS AND CALKING

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approved in advance by the Architect.

C. Colors:

1. Colors for each sealant installation will be selected by the Architect from standard colors normally available from the specified manufacturer.
2. Should such standard color not be available from an approved substitute manufacturer except at additional charge, provide such colors at no additional cost to the Owner.
3. In concealed installations, and in partially or fully exposed installations where so approved by the Architect, use standard gray or black sealant.

2.2 PRIMERS

- A. Use only those primers which 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.

2.3 BACKUP MATERIALS

- A. Use only those backup materials which are non-absorbent, non-staining, and specifically recommended for this installation by the manufacturer of the sealant used.

2.4 MASKING TAPE

- A. For masking around joints, provide an appropriate masking tape which will effectively prevent application of sealant on surfaces not scheduled to receive it, and which is removable without damage to substrate.

2.5 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 approval of the Architect.

PART 3 - EXECUTION

3.1 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.

3.2 PREPARATION

SEALANTS AND CALKING

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- A. Concrete and ceramic tile surfaces:
 - 1. Install only on surfaces which are dry, sound, and well brushed, wiping free from dust.
 - 2. At open joints, remove dust by mechanically blown compressed air if so required.
 - 3. To remove oil and grease, use sandblasting or wire brushing.
 - 4. Where surfaces have been treated, remove the surface treatment by sandblasting or wire brushing.
 - 5. Remove laitance and mortar from joint cavities.

- B. 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 and rust.
 - c. Use solvent to remove oil and grease, wiping the surfaces with clean white rags only.
 - 2. Remove protective coatings on steel by sandblasting or by using a solvent which leaves no residue.

- C. 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.

3.3 INSTALLATION OF BACKUP MATERIAL

- A. When using backup of tube or rod stock, avoid lengthwise stretching of the material. Do not twist or braid hose or rod backup stock.

- B. Installation tool:
 - 1. For installation of backup material, provide a blunt surfaced tool of wood or plastic, having shoulders designed to ride on the adjacent finished surface and a protrusion of the required dimensions to assure uniform depth of backup material below the sealant.
 - 2. Do not, under any circumstance, use a screwdriver or similar tool for this purpose.
 - 3. Using the approved tool, smoothly and uniformly place the backup material to the depth indicated on the Drawings or otherwise required, compressing the backup material 25% to 50% and securing a positive fit.

3.4 PRIMING

- A. Use only the primer approved by the Architect for the particular installation, applying in strict accordance with the manufacturer's recommendations as approved by the Architect.

3.5 BOND-BREAKER INSTALLATION

- A. Provide an approved bond-breaker where recommended by the manufacturer of the sealant, and where directed by the Architect, adhering strictly to the manufacturers' installation recommendations.

3.6 INSTALLATION OF SEALANTS

- A. Prior to start of installation in each joint, verify the joint type according to details on the Drawings, or as otherwise directed by the Architect, 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 hand gun or manually-operated 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 primer or 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.
 - 1. Provide uniformly smooth joints with slightly concave surface.
 - 2. Do not use tooling agent unless specifically so recommended in writing by the manufacturer of the sealant.
- F. Cleaning up:
 - 1. 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.
 - 3. Upon completion of the work of this Section, promptly remove from the job site all debris, empty containers, and surplus material derived from this portion of the Work.

END OF SECTION

SEALANTS AND CALKING

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SECTION 08710
FINISH HARDWARE

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide finish hardware throughout the Work as specified herein and as needed for a complete and proper installation.
- 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.

1.2 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 FINISH HARDWARE

- A. Provide within the Contract Sum the Cash Allowance stated on the Drawings.
- B. The Owner will select finish hardware.

PART 3 - EXECUTION

3.1 COORDINATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. Secure templates from manufacturers as required, and distribute to suppliers of doors and other items as required to assure proper fit of mill-installed units.
- C. Distribute finish hardware components to other trades as required, and provide proper direction regarding correct installation and adjustment of all units.

- D. Upon completion of installation of finish hardware, and as a condition of its acceptance, make a complete inspection of all installed items.
1. Verify proper installation and function.
 2. Make required adjustments and achieve optimum operation.
 3. Tighten screws and fasteners as necessary.
 4. Make scratches and abrasions invisible to the unaided eye from a distance of five feet, or completely re-place such damaged item with new identical item at no additional cost to the Owner.

END OF SECTION

SECTION 09260
GYPSUM WALLBOARD SYSTEM

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide gypsum drywall and accessories where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 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.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 35 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;
 - 3. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 GYPSUM WALLBOARD

- A. General:
 - 1. Provide gypsum wallboard complying with Fed Spec SS-L-30D, in 48" widths and in such lengths as will result in a minimum of joints.
 - 2. Regular wallboard: Provide type III, grade R, class 1, 1/2" thick except as may be shown otherwise on the Drawings.

3. Fire-retardant wallboard: Provide type III, grade X, class 1, 5/8" thick.
 4. Water-resistant wallboard: Provide type VII, grade W or X as required, class 2, 1/2" or 5/8" thick except as may be shown otherwise on the Drawings.
- B. Shaft walls: Where so indicated on the Drawings, provide gypsum wallboard system specifically designed for encasing shafts of the required fire-resistivity, and complying with Fed Spec SS-L-30D, type IV, grade R or X, class 1, in the dimensions shown or otherwise required.
- C. Sheathing: Where gypsum wallboard sheathing is indicated on the Drawings, provide gypsum wallboard complying with Fed Spec SS-L-30D, type II, grade W, class 2.

2.2 METAL TRIM

- A. Form from zinc-coated steel not lighter than 26 gage, complying with Fed Spec QQ-S-775, type I, class d or e.
- B. Casing beads:
1. Provide channel-shapes with an exposed wing, and with a concealed wing not less than 7/8" wide.
 2. The exposed wing may be covered with paper cemented to the metal, but shall be suitable for joint treatment.
- C. Corner beads: Provide angle shapes with wings not less than 7/8" wide and perforated for nailing and joint treatment, or with combination metal and paper wings bonded together, not less than 1-1/4" wide and suitable for joint treatment.
- D. Edge beads for use at perimeter of ceilings:
1. Provide angle shapes with wings not less than 3/4" wide.
 2. Provide concealed wing perforated for nailing, and exposed wing edge folded flat.
 3. Exposed wing may be factory finished in white color.

2.3 JOINTING SYSTEM

- A. Provide a jointing system, including reinforcing tape and compound, designed as a system to be used together and as recommended for this use by the manufacturer of the gypsum wallboard approved for use on the Work.
- B. Jointing compound may be used for finishing if so recommended by its manufacturer.

2.4 FASTENING DEVICES

- A. For fastening gypsum wallboard in place on metal studs and metal channels, use flat-head screws, shouldered, specially designed for use with power-driven tools, not less than 1" long, with self-tapping threads and self-drilling points.
- B. For fastening gypsum wallboard in place on wood, use 1-1/4" type W bugle-head screws, or use annular ring type nails complying with ASTM C514 and of the length required by governmental agencies having jurisdiction.

2.5 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 approval of the Architect.

PART 3 - EXECUTION

3.1 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.

3.2 INSTALLATION

- A. General:
 - 1. Install the gypsum wallboard in accordance with the Drawings and with the separate boards in moderate contact but not forced in place.
 - 2. At internal and external corners, conceal the cut edges of the boards by the overlapping covered edges of the abutting boards.
 - 3. Stagger the boards so that corners of any four boards will not meet at a common point except in vertical corners.
- B. Ceilings:
 - 1. Install the gypsum wallboard to ceilings with the long dimension of the wallboard at right angles to the supporting members.
 - 2. Wallboard may be installed with the long dimension parallel to supporting members that are spaced 16" on centers when attachment members are provided at end joints.
- C. Walls:
 - 1. Install the gypsum wallboard to studs at right angles to the furring or framing members.
 - 2. Make end joints, where required, over framing or furring members.
- D. Attaching:
 - 1. Drive the specified screws with clutch-controlled power screwdrivers, spacing the screws 12" on center at ceilings and 16" on centers at walls.
 - 2. Where framing members are spaced 24" apart on walls, space screws 12" on centers.
 - 3. Attach double layers in accordance with the pertinent codes and the manufacturer's recommendations as approved by the Architect.
 - 4. Attach to wood as required by governmental agencies having jurisdiction.

3.3 JOINT TREATMENT

- A. General:
 - 1. Inspect areas to be joint treated, verifying that the gypsum wallboard fits snugly against supporting frame-work.
 - 2. In areas where joint treatment and compound finishing will be performed, maintain a temperature of not less than 55 degrees for 24 hours prior to commencing the treatment, and until joint and finishing compounds have dried.
 - 3. Apply the joint treatment and finishing compound by machine or hand tool.
 - 4. Provide a minimum drying time of 24 hours between coats, with additional drying time in poorly ventilated areas.

- B. Embedding compounds:
 - 1. Apply to gypsum wallboard joints and fastener heads in a thin uniform layer.
 - 2. Spread the compound not less than 3" wide at joints, center the reinforcing tape in the joint, and embed the tape in the compound. Then spread a thin layer of compound over the tape.
 - 3. After this treatment has dried, apply a second coat of embedding compound to joints and fastener heads, spreading in a thin uniform coat to not less than 6" wide at joints, and feather edged.
 - 4. Sandpaper between coats as required.
 - 5. When thoroughly dry, sandpaper to eliminate ridges and high points.
- C. Finishing compounds:
 - 1. After embedding compound is thoroughly dry and has been completely sanded, apply a coat of finishing compound to joints and fastener heads.
 - 2. Feather the finishing compound to not less than 12" wide.
 - 3. When thoroughly dry, sandpaper to obtain a uniformly smooth surface, taking care to not scuff the paper surface of the wallboard.

3.4 CORNER TREATMENT

- A. Internal corners: Treat as specified for joints, except fold the reinforcing tape lengthwise through the middle and fit neatly into the corner.
- B. External corners:
 - 1. Install the specified corner bead, fitting neatly over the corner and securing with the same type fasteners used for installing the wallboard.
 - 2. Space the fasteners approximately 6" on centers, and drive through the wallboard into the framing or furring member.
 - 3. After the corner bead has been secured into position, treat the corner with joint compound and reinforcing tape as specified for joints, feathering the joint compound out from 8" to 10" on each side of the corner.

3.5 OTHER METAL TRIM

- A. General:
 - 1. The Drawings do not purport to show all locations and requirements for metal trim.
 - 2. Carefully study the Drawings and the installation, and provide all metal trim normally recommended by the manufacturer of the gypsum wallboard approved for use in this Work.

3.6 CLEANING UP

- A. In addition to other requirements for cleaning, use necessary care to prevent scattering gypsum wallboard scraps and dust, and to prevent tracking gypsum and joint finishing compound onto floor surfaces.
- B. At completion of each segment of installation in a room or space, promptly pick up and remove from the working area all scrap, debris, and surplus material of this Section

END OF SECTION

GYPSUM WALLBOARD SYSTEM
09260-4

SECTION 09985

FIBERGLASS REINFORCED PANELING

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide fiberglass reinforced paneling where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 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 I of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 45 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;
 - 3. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 WALL PANELS

- A. Textured/Gloss Panels: Pre-finished panels 4'-0" x 8'-0" or 10'-0" x 0.090" nominal, color as indicated or selected by Architect from standard colors; as manufactured by Marlite, Division of Masonite Corporation. Panels shall be solid fiberglass reinforced polyester construction.

- B. Accessories:
Provide manufacturer's standard pre-finished moldings and trim, in 8'-0" or 10'-0" lengths to match panels, and in indicated colors at all joints, corners and edges.

2.2 OTHER MATERIALS

- A. Adhesive shall be per manufacturer's recommendations, meeting requirements of ASTM C557-65T, non-toxic and non-flammable.
 - 1. **Use low-VOC products (70 gpl or less) in place of standard adhesives for all interior application of installations of paneling.**
 - 2. Provide waterproof and stabilized type adhesive as recommended by the manufacturer of the material being installed.
 - 3. Asphalt emulsions and other non-waterproof adhesives will not be acceptable.
- B. Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the approval of the Architect.

PART 3 - EXECUTION

3.1 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.

3.2 INSTALLATION

- A. Securely install the approved products in accordance with the manufacturer's recommendations as approved by the Architect, setting panels straight, plumb, level, and true to the lines and levels shown on the Drawings, attached to the walls with the specified adhesive according to manufacturer's recommendations.
- B. Finish butt joints, wall juncture, wall/base and wall/ curb joints with the specified sealant, tooling to a smooth finish.

END OF SECTION

SECTION 10170

PLASTIC TOILET PARTITIONS

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide plastic toilet partitions, urinal screens, and shower dividers where shown on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 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 I of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 45 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;
 - 3. Shop Drawings in sufficient detail to show fabrication, installation, anchorage, and interface of the work of this Section with the work of adjacent trades;
 - 4. Color and pattern charts showing colors and patterns available in the specified products from the proposed manufacturer.
 - 5. Manufacturer's recommended installation procedures which, when approved by the Architect, will become the basis for accepting or rejecting actual installation procedures used on the Work.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 PLASTIC TOILET PARTITIONS

- A. Provide Metpar Corp. Polly SPR Series toilet partitions, floor anchored, overhead braced or equal products of other manufacturer approved in advance by the Architect, in the dimensions and arrangements shown on the Drawings, and in colors and finishes selected by the Architect from standard colors and finishes of the approved manufacturer.

PART 3 - EXECUTION

3.1 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.

3.2 INSTALLATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. Install the work of this Section in strict accordance with the original design, the approved Shop Drawings, pertinent requirements of governmental agencies having jurisdiction, and the manufacturer's recommended installation procedures as approved by the Architect, anchoring all components firmly into position for long life under hard use.
- C. Adjust doors, except doors to handicapped compartments, to remain at a uniformly open position when unlocked.
- D. Touch-up scratches and abrasions to be completely invisible to the unaided eye from a distance of five feet.

END OF SECTION

PLASTIC TOILET PARTITIONS
10170-2

SECTION 10800

TOILET ROOM ACCESSORIES

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide toilet room accessories where indicated on the Drawings, as specified herein, and as needed for a complete and proper installation.
- 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 I of these Specifications.

1.2 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

1.3 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 TOILET ROOM ACCESSORIES

- A. Provide products specified on the drawings or equal approved in advance by the Architect, in the types and locations shown on the Drawings.

2.2 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 approval of the Architect.

TOILET ROOM ACCESSORIES

10800-1

PART 3 - EXECUTION

3.1 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.

3.2 INSTALLATION

- A. Coordinate as required with other trades to assure proper and adequate provision in the work of those trades for interface with the work of this Section.
- B. Install each item in its proper location, firmly anchored into position, level and plumb, and in accordance with the manufacturer's recommendations.

END OF SECTION

SECTION 13121

PREFABRICATED METAL BUILDING

PART 1 - GENERAL

1.1 EXTENT OF WORK

- A. Work comprises furnishing and installing a prefabricated steel frame building and appurtenances as specified in this Section and Division 1.
- B. FURNISH AND DESIGN, STRUCTURAL CALCULATIONS AND DRAWINGS NECESSARY FOR THE BUILDING PERMITS.

1.2 SUBMITTALS

- A. Shop Drawings: Shop drawings including erection drawings shall be submitted in accordance with Division 1 of this Specification.

1.3 PRODUCT PACKAGING, HANDLING, AND DELIVERING

- A. Manufacturer shall provide adequate packaging or crating as required for prefinished components to preserve finish coating intact and free from abrasion or other damage.
- B. Materials shall be handled carefully to prevent damage to surfaces, edges, and ends, as well as bending, warping, and buckling.
- C. Deliver the materials to the work site and store, all in a safe area, out of the way of traffic and shored up off the ground surface.
- D. Identify materials to correspond with Bill of Materials of the Shop Drawings.

1.4 ACCEPTABLE MANUFACTURER

- A. Prefinished steel frame building shall be supplied by:
 - 1. MD Barnmaster, Inc.
 - 2. Other manufacturers with prior approval of the Architects.

1.5 DESIGN CRITERIA

- A. Prefinished metal building shall meet or exceed the following requirements:

1. Structural analysis: Contractor shall obtain from manufacturer four copies of structural calculations on 8-1/2" x 11" sheets submitted with the shop drawings in accordance with the Shop Drawing paragraph under Division 1. Structural calculations shall be stamped and signed by a Civil or Structural Engineer licensed in the State of California. Submit shop drawings and calculations to Engineer for review and approval before fabrication.
2. Codes and Standards: Design, fabrication, and construction of the prefabricated building shall be in accordance with the latest adopted editions of the following references:
 - a. California Building Code (CBC)
 - b. American Society of Testing and Materials (ASTM)
 - c. American Institute of Steel Construction (AISC)
 - d. American Iron and Steel Institute (AISI)
 - e. Metal Building Manufacturer's Association (MBMA)
3. Design Criteria: 2016 CBC; Wind speed - Ultimate 110mph, Basic 85 mph; Occupancy Design Category II, Seismic Design Method - Equivalent Lateral Force Analysis Procedure 12-8 ASCE 7-10

1.6 REFERENCE STANDARDS

- A. ASTM A 36/ASTM A36M - Standard Specification for Carbon Structural Steel.
- B. ASTM A 307 - Standard Specification for Carbon Steel Bolts and Studs, 60 000 PSI Tensile Strength.
- C. ASTM A 325 - Standard Specification for Structural Bolts, Steel, Heat Treated, 120/105 ksi Minimum Tensile Strength.
- D. ASTM A 570/A 570M - Standard Specification for Steel, Sheet and Strip, Carbon, Hot-Rolled, Structural Quality.
- E. ASTM A 653/A 653M - Standard Specification for Steel Sheets, Zinc-Coated (Galvanized) or Zinc-Iron Alloy-Coated (Galvannealed) by the Hot-Dip Process.
- F. ASTM A 792/A 792M - Standard Specification for Steel Sheet, 55% Aluminum-Zinc Alloy-Coated by the Hot-Dip Process.

1.5 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

1.6 SUBMITTALS

- A. Design Data: Provide detailed design criteria and calculations.

- B. Certification: Manufacturer certification that the building conforms to the contract documents and manufacturer's standard design procedures.
- C. Shop Drawings: Show building layout, primary and secondary framing member sizes and locations, cross-sections, and product and connection details.
- D. Product Data: Information on manufactured products to be incorporated into the project.
- E. Color Charts: For selection of colors.
- F. Anchor Bolt Installation Drawings: Layouts with bolt diameters.

1.7 WARRANTY

- A. Provide manufacturer's standard warranty for materials and workmanship: 1 year.

PART 2 - PRODUCTS

2.1 METAL MATERIALS

- A. Select materials and material yield strengths based on building design requirements; use the following unless required otherwise.
- B. Structural Steel Plate, Bar, Sheet, and Strip for Use in Bolted and Welded Constructions: ASTM A 572/A 572M/A570, A 529/A 529M or A 36, with minimum yield strength of 50,000 psi (345 MPa).
- C. Structural Steel Material for Use in Roll Formed or Press Broken Secondary Structural Members: ASTM A 570/A 570M, or A607 with minimum yield strength of 55,000 psi (380 MPa).
- D. Galvanized Steel Sheet for Roll Formed or Press Broken Roof and Wall Coverings, Trim and Flashing: ASTM A 653/A 653M, with minimum yield strength of 50,000 psi (345 MPa).
- E. Galvalume Steel Sheet Used in Roll Formed or Press Broken Roof Covering: Aluminum-zinc alloy-coated steel sheet, ASTM A 792/A 792M, with minimum yield strength of 50,000 psi (345 MPa); nominal coating weight of 0.5 oz per sq. ft (152 kg/sq m) both sides, equivalent to an approximate coating thickness of 0.0018 inch (0.05 mm) both sides.
- F. Hot Rolled Steel Shapes: W, M and S shapes, angles, rods, channels and other shapes; ASTM A 572/A 572M or ASTM A 36/A 36M as applicable; with minimum yield strengths required for the design.

- G. Structural Bolts and Nuts Used with Primary Framing: High strength, ASTM A 325.
- H. Bolts and Nuts Used with Secondary Framing Members: ASTM A 307.
- I. Shop Coat: Manufacturer's standard rust inhibitive primer paint; manufacturer's standard color.

2.2 FRAMING COMPONENTS

- A. Primary Roof Framing: 14 gauge galvanized steel frame
- B. Proprietary Wall Channel Framing: rolled 14 gauge steel, bottom channel hot dipped for rust prevention **by Barnmaster**.
- C. Wall System:
 - 1. Exterior: **2" Hardipanel, painted**
 - 2. Center: 1/3/16" thick foam over 1/2" thick plywood
 - 3. Interior: 26 gauge Zincolume steel
- D. Fabrication: Fabricate according to manufacturer's standard practice.
- E. Component Identification: Mark all fabricated parts, either individually or by lot or group, using an identification marking corresponding to the marking shown on the shop drawings, using a method that remains visible after shop painting.

2.3 ROOF, TRIM & FACIA COMPONENTS

- A. Roof Panels: MDBarnmaster's "SuperRib" 26 gauge roofing
- B. Facia: 26 gauge x 3.25"w. x 5" h. pre-painted steel
- C. Trim: 26 gauge pre-painted steel

PART 3 EXECUTION

3.1 EXAMINATION

- A. Verify that foundations are installed correctly.
- B. Verify that anchor bolts are installed as indicated on anchor bolt shop drawings.
- C. Do not proceed until unsatisfactory conditions are corrected.

3.2 ERECTION

- A. Erect pre-engineered building in accordance manufacturer's instructions, erection drawings, and other erection documents.
- B. Provide temporary bracing, shoring, blocking, bridging and securing of components as required during the erection process.
- C. Use adequate number of skilled workman who are thoroughly trained and experienced in the necessary craft and who are completely familiar with the specified requirements and the methods needed for proper performance of the work.

3.4 CLEANING

- A. Remove debris caused by work of this Section, clean exposed surfaces.

END OF SECTION

SECTION 15400

PLUMBING

PART 1 - GENERAL

1.1 SUMMARY

- A. Provide plumbing where shown on the Drawings, as specified herein, and as needed for a complete and proper installation including, but not necessarily limited to:
 - 1. Domestic hot and cold water piping systems;
 - 2. Drain, waste, and vent systems;
 - 3. Gas piping system;
 - 4. Plumbing fixtures and trim as shown on the Drawings;
 - 5. Condensate drains for a/c units;
 - 6. Storm drain system.
- 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 I of these Specifications.

1.2 SUBMITTALS

- A. Comply with pertinent provisions of Section 01340.
- B. Product data: Within 35 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, catalog cuts, and other data needed to prove compliance with the specified requirements;
 - 3. Shop Drawings and other data as required to indicate method of installing and attaching equipment, except where such details are fully shown on the Drawings.
- C. Sterilization certificate:
 - 1. Upon completion of water line sterilization, deliver to the Architect two copies of an acceptable "Certificate of Performance" for that activity.
- D. Manuals:
 - 1. Upon completion of the work of this Section, deliver to the Architect two copies of an operation and maintenance manual compiled in accordance with the provisions of Section 01730 of these Specifications.
 - 2. Include within each manual a copy of the Project Record Documents showing all work of this Section.

1.3 QUALITY ASSURANCE

- A. Use adequate numbers of skilled workmen who are thoroughly trained and experienced in the necessary crafts and who are completely familiar with the specified requirements and the methods needed for proper performance of the work of this Section.

- B. Codes and regulations:
 - 1. In addition to complying with the specified requirements, comply with pertinent regulations of governmental agencies having jurisdiction and current adopted Uniform Plumbing Code.
 - 2. In the event of conflict between or among specified requirements and pertinent regulations, the more stringent requirement will govern when so directed by the Architect.

1.4 DELIVERY, STORAGE, AND HANDLING

- A. Comply with pertinent provisions of Section 01620.

PART 2 - PRODUCTS

2.1 PIPING MATERIALS

- A. Drain, waste, and vent system:
 - 1. For sanitary work below the floor and outside underground:
 - a. ABS or PVC DWV Schedule 40: traps, sink outlets, cleanouts, etc., shall be same material; traps shall have union connection.
 - . For domestic waste only: Polyvinyl chloride gravity sewer pipe with bell and rubber Z-gasket, SDR 35
 - . Where cover is less than 12", pipe shall be ABS or PVC DWV Sch 40.
 - 2. For two-story apartments in attic space above ground:
 - a. Sizes 3-1/2" and larger: Provide service weight cast iron pipe and fittings, no-hub for sound;
 - b. Vent piping: ABS or PVC DWV Sch 40.
 - 3. Cleanouts:
 - a. Floor type, Smith 4020 with nickel bronze top in finished areas; Smith 4220 in utility areas;
 - b. Wall type, Smith 4530 with stainless steel cover and screw;
 - c. Comparable models of Josam, Wade, or Zurn are acceptable.
 - 4. Cleanout Box:
 - a. Precast reinforced concrete type, Christy F-8 in foot traffic, Christy G5 in roadways;
 - b. Cast iron lid marked for service.
- B. Storm Drain:
 - 1. Piping:
 - a. Inside building and within five feet of building walls; same as Soil, Waste, and Vent Piping;
 - b. Outside building; 12" and smaller, polyvinyl chloride gravity sewer pipe with bell and Z-gasket, ASTM D3034, SDR 35, Carlon, J.M.; where cover is less than 12" cover with concrete slurry.
- C. Water system (hot & cold domestic piping):
 - 1. Above ground, provide Aquapex System with manifolds;
 - 2. Below ground, provide Schedule 40 PVC pipe thru 3", Class C900 thru 4".
- D. Gas piping:
 - 1. Above grade, Schedule 40 black steel pipe ASTM A120 with 150 psi black malleable iron screwed fittings; except provide galvanized where pipe or fittings are exposed to the weather.
 - 2. Flexible connections shall be convoluted brass with dielectric couplings, AGA

3. approved
 3. Outside building flexible brass connections shall be convoluted stainless steel with dielectric couplings, AGA approved.
 4. Outside building (below grade); Approved PE gas pipe.
- E. Condensate Drain Piping: Same as cold water piping.
- F. Valves and Specialties:
1. Valves:
 - a. General: Manufacturer's model numbers are listed to complete description. Milwaukee, Apollo, Nibco or Stockham are acceptable. All valves shall be full size of upstream piping. Ball valves may be substituted for gate valves 2" and smaller. Cv factors for ball valves shall not be less than equal size gate valves specified.
 - b. Gate Valve(s), 2" and smaller: All bronze, rising stem, union bonnet, wedge disk, 200 psi WOG. Milwaukee No. 1152. The material of the valve stem shall be limited to a maximum of six (6) percent zinc content. 2-1/2" and larger: Iron body, bronze mounted. Non-rising stem. Wedge disk. 200 psi WOG. Flanged or AWWA hub as applicable. Open/closed indicator. Milwaukee No. F2882. Underground valves shall have square operating nut.
 - c. Check Valve(s), 2" or smaller: All bronze swing check, regrinding. 200 psi WOG. Milwaukee No. 509, 1509. 2-1/2" and larger: Non-slam type, 125 psi iron body wafer type with renewable seats and stainless steel spring. Milwaukee 1400 series.
 - d. Plug Valve(s): Eccentric bronze plug. Nickel chromium alloy iron body. Bronze bushings. Buna-N O-rings. UL approved for gas distribution. 175 psi WOG. DeZurick Series 400.
 - e. Ball Valve(s): Two or three piece construction, forged bronze body, chrome plated brass ball, threaded ends, teflon seats, PTFE or reinforced teflon stem seals, lever handle. Milwaukee BA100/150, BA300/350. Nibco.
 - f. Gas Valve(s): 2" and smaller, Nibco for gas; 2-1/2" and larger, Rockwell plug valve #142 or equivalent.
 - g. Valve Box: Precast reinforced concrete. Cast iron lid marked for service. Christy F-8 in foot traffic areas; G% in roadways.
 2. Miscellaneous Specialties:
 - a. Temperature and Pressure Relief Valve: ASME rated fully automatic, reseating combination temperature and pressure relief valve sized in accordance with energy input. Sensing element immersed within upper 6" of tank. Watts
 - b. Union(s), 2" and smaller: AAR malleable iron, bronze to iron ground seat. 300 psi.
 - c. Dielectric Coupling: Insulating coupling rated for 250 psig. EPCO.
- F. Miscellaneous Piping Items:
1. Pipe Support:
 - a. Pipe Hanger: J-hanger and rod. Size and maximum load per manufacturer's recommendation. Felt lined, for water B-Line B3690F, Unistrut, Clement. Plain J-hanger for gas.
 - b. Construction Channel: 12 gage 1-5/8" x 1-5/8" steel channel. Single or multiple section. Self-locking nuts and fittings. B-Line, Unistrut.
 2. Pipe Sleeves: 24 gage galvanized steel. Adjus-to-Crete #10 with #99 thimble

- for floors. #100 for walls.
3. Flashing: Vent flashing and flashing for piping through roof shall be prefabricated 24 gauge galvanized steel roof jacks with 8" square flange around pipe. For tile or other roofing systems where pliable flashing is required, flashing shall be lead. Seal with weatherproofing mastic.

2.2 MATERIALS

- A. Soil pipe and fittings;
 1. Provide ABS/PVC DWV Schedule 40 with bell & rubber Z-gasket.
- B. Galvanized or black steel pipe:
 1. Provide standard weight complying with ASTM A12.
- C. Fittings:
 1. For copper lines, provide copper fittings.
 2. For steel lines, provide service weight cast iron type fittings.
- D. Unions:
 1. For copper lines, provide copper fittings.
 2. For connections in iron pipe lines 2-1/2" and smaller, provide ground joint brass-to-iron fittings.
 3. Provide di-electric unions with dissimilar metals.

2.3 VALVES

- A. Gate valves: Provide solid wedge disc, rising stem, 200# WOG; non-rising stem valves may be used only where there is insufficient clearance.
 1. 3" and smaller, rising stem: Provide Nibco S-134, bronze, screwed.
 2. 3" and smaller, non-rising stem: Provide Nibco S-136e #438, bronze, screwed.
 3. 4" and larger: Provide Nibco F-617, iron-body, flanged, non-rising stem.
- B. Gas cocks:
 1. 2" and smaller: Provide Milwaukee Butterball
- C. Check valves:
 1. 3" and smaller: Provide Nibco S-413.
 2. 4" and larger: Provide Nibco F-918-B.
- D. Strainers: Provide Y-pattern, 200# WOG, 20 mesh monel screen:
 1. 3" and smaller: Provide Crane #988-1/2, screwed.
 2. 4" and larger: Provide Crane #989-1/2, flanged.
- E. Pressure regulators:
 1. Provide Mueller H-9000, or Wilkins series 500, all bronze.
 2. Install with brass strainer upstream of regulator.
- F. Partition stop valves: Provide Chicago Faucet #1771, loose key type.
- G. Balancing cocks: Provide DeZurick #400.
- H. **Lever type valves: Provide 1/4 turn lever type shut off valves for hot & cold supply to all washers.**

2.4 FLASHING

- A. Where pipes of this Section pass through the roof, flash with 24-gauge sheet metal roof flashing.

2.5 CLEANOUTS

- A. Exterior:
 - 1. Provide Christy F-8, w/ cast iron top in concrete areas.
- B. Finished walls:
 - 1. Provide Smith #4472 with round chrome plated or stainless steel access plate and screw.

2.6 ACCESS BOXES

- A. Yard boxes:
 - 1. Provide Christy cast concrete boxes and lid marked GAS SHUTOFF or WATER, size 12" x 18" x12".
 - 2. Set flush with finished grades with 4" thick concrete pad under perimeter (but not under interior) of box.

2.7 TRAPS

- A. For lavatories and sinks, provide 17-gauge chrome plated.

2.8 WATER HAMMER ARRESTORS

- A. Provide Smith #5000 series or Josam #1585, stainless steel.

2.9 HANDICAPPED INSULATION

- A. Where shown on the Drawings or required by governmental agencies having jurisdiction, at lavatories for handicapped persons provide Johns-Manville "Aerotube" insulation, with paint coating, on hot water supply, tailpiece, and trap.

2.10 FIXTURES AND EQUIPMENT

- A. Provide plumbing fixture, trim, and equipment as shown on the "Fixture and Equipment Schedule" in the Drawings.
- B. Hose bibbs:
 - 1. Provide Woodford 24P, 3/4" sill cocks on building walls, and Woodford Y24 in planters, all loose key style.
 - 2. Provide vacuum breaker.
 - 3. In finished spaces, provide chromium plated bibbs, and provide rough cast bronze finish elsewhere.
 - 4. Provide loose-key stop ahead of each bibb.

2.11 BACKFLOW PREVENTERS

- A. General:
 - 1. Where installed in finished spaces, provide chromium plated finish.
 - 2. For flush valves, provide diaphragm type, complete with approved vacuum

- breaker provided by the manufacturer of the valve.
3. **At double check valve/backflow preventer location(s), install chain & padlock to prevent unauthorized shutdown.**

- B. Acceptable products: Provide the following or equal products manufactured by Febco:
1. Atmospheric type: Febco #710 A or G for hot and cold water;
 2. Pressure type: Febco #825YD

2.12 GAS VENT LINES

- A. General:
1. For combustion vent flues for gas-fired equipment, provide size required by the manufacturer of the equipment and as required by governmental agencies having jurisdiction.
 2. Provide "Amerivent" or equal.
- B. Do not use single-wall metal vent line.

2.13 INSULATION

- A. Insulate hot water lines with 1" thick Owens/Corning Fiberglas "25 ASJ/SSL."
- B. Also see requirements specified for "Handicapped Insulation."

2.14 PIPE WRAPPING

- A. Steel piping in concrete or underground:
1. Wrap with Pasco 20 mil tape.
 2. Fittings and other joints: Wrap in the field with Pasco 20 mil tape.
 3. Provide 50% overlap on tape weld rubber coating.

2.15 SLEEVES

- A. Where pipes pass through concrete, masonry, or stud walls, or pass through ceilings, provide "Sperzel" rust-proof "Crete-Sleeve" of the size required.

2.16 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 approval of the Architect.

PART 3 - EXECUTION

3.1 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.

3.2 PLUMBING SYSTEM LAYOUT

- A. Lay out the plumbing system in careful coordination with the Drawings, determining proper elevations for all components of the system and using only the minimum number of bends to produce a satisfactorily functioning system.
- B. Follow the general layout shown on the Drawings in all cases except where other work may interfere.
- C. Lay out pipes to fall within partition, wall, or roof cavities, and to not require furring other than as shown on the Drawings.

3.3 TRENCHING AND BACKFILLING

- A. Perform trenching and backfilling associated with the work of this Section in strict accordance with the provisions of Section 02220 of these Specifications.
- B. Cut bottom of trenches to grade. Make trenches 12" wider than the greatest dimension of the pipe.
- C. Bedding and backfilling:
 - 1. Install piping promptly after trenching. Keep trenches open as short a time as practicable.
 - 2. Under the building, install pipes on a 6" bed of damp sand. Backfill to bottom of slab with damp sand.
 - 3. Outside the building, install underground piping on a 6" bed of damp sand. Backfill to within 12" of finish grade with damp sand. Backfill remainder with native soil.
 - 4. Do not backfill until installation has been approved and until Project Record Documents have been properly annotated.

3.4 INSTALLATION OF PIPING AND EQUIPMENT, GENERAL

- A. General:
 - 1. Proceed as rapidly as the building construction will permit.
 - 2. Thoroughly clean items before installation. Cap pipe openings to exclude dirt until fixtures are installed and final connections have been made.
 - 3. Cut pipe accurately, and work into place without springing or forcing, properly clearing windows, doors, and other openings. Excessive cutting or other weakening of the building will not be permitted.
 - 4. Show no tool marks or threads on exposed plated, polished, or enameled connections from fixtures. Tape all finished surfaces to prevent damage during construction.
 - 5. Make changes in directions with fittings; make changes in main sizes with eccentric reducing fittings. Unless otherwise noted, install water supply and return piping with straight side of eccentric fittings at top of the pipe.
 - 6. Run horizontal sanitary and storm drainage piping at a uniform grade of 1/4" per ft, unless otherwise noted.
 - 7. Provide sufficient swing joint, ball joints, expansion loops, and devices necessary for a flexible piping system, whether or not shown on the Drawings.
 - 8. Support piping independently at pumps, coils, tanks, and similar locations, so that weight of pipe will not be supported by the equipment.
 - 9. Pipe the drains from pump glands, drip pans, relief valves, air vents, and similar locations, to spill over an open sight drain, floor drain, or other acceptable discharge point, and terminate with a plain end unthreaded pipe 6" above the

- drain.
- 10. Support each item independently from other pipes. Do not use wire for hanging or strapping pipes.
- 11. Provide complete dielectric isolation between ferrous and non-ferrous metals.
- 12. Provide union and shut off valves suitably located to facilitate maintenance and removal of equipment and apparatus.

B. Equipment access:

- 1. Install piping, equipment, and accessories to permit access for maintenance. Relocate items as necessary to provide such access, and without additional cost to the Owner.
- 2. Provide access doors where valves, motors, or equipment requiring access for maintenance are located in walls or chases or above ceilings. Coordinate location of access doors with other trades as required.

3.5 PIPE JOINTS

A. Copper tubing:

- 1. Cut square, remove burrs, and clean inside of female fitting to a bright finish.
 - a. Apply solder flux with brush to tubing.
 - b. Remove internal parts of solder-end valves prior soldering.
- 2. Provide dielectric unions at points of connection of copper tubing to ferrous piping and equipment.
- 3. For joining copper tubing, use:
 - a. Water piping 3" and smaller: 95-5 solder; lead free;
 - b. Water piping larger than 3": "Sil-fos" brazing; c .

Underground: "Sil-fos" brazing.

B. Screwed piping:

- 1. Deburr cuts.
 - a. Do not ream exceeding internal diameter of the pipe. b .
 - Thread to requirements of ANSI B2.1.
- 2. Use teflon tape on male thread prior to joining other services.

C. Leaky joints:

- 1. Remake with new material.
- 2. Remove leaking section and/or fitting as directed.
- 3. Do not use thread cement or sealant to tighten joint.

3.6 PIPE SUPPORTS

- A. Support suspended piping with clevis or trapeze hangers and rods.

3.7 SLEEVES AND OPENINGS

- A. Caulk the space between sleeve and pipe or pipe covering, using 3M Fire Caulking where required noncombustible, permanently plastic, waterproof, non-staining compound which leaves a smooth finished appearance, or pack with rope or fiberglass to within 1/2" of both wall faces, and provide the waterproof compound described above. Silicone at all other locations.

C. Finish and escutcheons:

- 1. Smooth up rough edges around sleeves with plaster or spackling compound.

2. Provide 1" wide chrome or nickel plated escutcheons on all pipes exposed to view where passing through walls, floors, partitions, ceilings, base cabinets under sinks, and similar locations.
 - a. Size the escutcheons to fit pipe and covering.
 - b. Hold escutcheons in place with set screw.

3.8 CLEANOUTS

- A. Secure the Architect's approval of locations for cleanouts in finished areas prior to installation.
- B. Provide cleanouts of same nominal size as the pipes they serve; except where cleanouts are required in pipes 4" and larger provide 4" cleanouts.
- C. Make cleanouts accessible. After pressure tests are made and approved, thoroughly coat the cleanout threads with "LA-CO" Slic-tite lubricant paste.

3.9 VALVES

- A. Provide valves in water and gas systems. Locate and arrange so as to give complete regulation of apparatus, equipment, and fixtures.
- B. Provide valves in at least the following locations:
 1. On both sides of apparatus and equipment.
 2. For flushing and sterilizing the system.
 3. Where shown on the Drawings.
 4. At each dwelling unit.
- C. Locate valves for easy accessibility and maintenance.

3.10 WATER HAMMER ARRESTORS

- A. Provide water hammer arrestors on hot water lines and cold water lines.
 1. Install in upright position at all quick closing valves and solenoids.
 2. Locate and size as specified or as shown on the Drawings and, where not shown, locate in accordance with Plumbing and Drainage Institute Standard WH-201.
 3. Install water hammer arrestors behind access panels.
- B. Where fixtures are not protected by water hammer arrestors, provide 24" high air chambers on each water supply, properly sized and designed for maintenance and drainage.

3.11 BACKFLOW PREVENTION

- A. Protect plumbing fixtures, faucets with hose connections, and other equipment having plumbing connection, against possible back-siphonage.
- B. Arrange for testing of backflow devices as required by the governmental agencies having jurisdiction.

3.12 CONCRETE

- A. Provide concrete required for the work of this Section in strict accordance with pertinent provisions of Section 03300 of these Specifications.

3.13 PLUMBING FIXTURE INSTALLATION

- A. Installation:
 - 1. Set fixtures level and in proper alignment with respect to walls and floors, and with fixtures equally spaced.
 - 2. Provide supplies in proper alignment with fixtures and with each other.
- B. Silicone caulk wall and floor mounted fixtures watertight where the fixtures are in contact with walls and floors.
- C. Caulk deck-mounted trim at the time of assembly, including fixture and casework mounted. Caulk self-rimming sinks installed in casework.

3.14 DISINFECTION OF WATER SYSTEMS

- A. Disinfect hot and cold water systems.
 - 1. Perform disinfection under the Architect's observation. Notify the Architect at least 48 hours prior to start of the disinfection process.
 - 2. Upon completion of disinfecting, secure and submit the Certificate of Performance required under Article 1.2 of this Section, stating system capacity, disinfectant used, time and rate of disinfectant applied, and resultant residuals in ppm at completion..
 - 3. Use disinfectant method approved by the Architect.
- B. When disinfection operation is completed, and after final flushing, secure an analysis by a laboratory approved by the Architect, based on water samples from the system, showing test negative for coli-aerogene organisms. Provide a total plate count of less than 100 bacteria per cc, or equal to the control sample.
- C. If analysis results are not satisfactory, repeat the disinfection procedures and retest until specified standards are achieved.

3.15 OTHER TESTING AND ADJUSTING

- A. Provide personnel and equipment, and arrange for and pay the costs of, all required tests and inspections required by governmental agencies having jurisdiction.
- B. Where tests show materials or workmanship to be deficient, replace or repair as necessary, and repeat the tests until the specified standards are achieved.
- C. Adjust the system to optimum standards of operation.

END OF SECTION

SECTION 16100

GENERAL CONDITIONS FOR ELECTRICAL WORK

PART 1- ORDINANCES, REGULATIONS AND CODES

1.1 All work must conform to the requirements which fall within the scope of the regulations in the Codes or under the jurisdiction of any of the governing bodies listed.

- A. The California Code of Regulations, Titles 19 thru 25.
- B. The California Electrical Code as applicable under current state and local regulations (latest edition and supplements.)
- C. State Board of Health.
- D. CAL-OSHA Regulations.
- E. Nothing in these Specifications or shown on the plans, shall relieve the Contractor from full compliance with applicable portions of any of the above regulations pertaining to work which he is installing under this Contract.

1.2 PERMITS AND FEES

Pay for and obtain all permits, inspection fees, etc., as required for the completion of all work included in this Contract. Any inspection Certificates required shall be obtained and delivered to the Owner.

1.3. EXAMINATION OF DRAWINGS AND SITE

Before submitting his bid, the Contractor shall carefully examine the Architectural, Structural, Mechanical and Plumbing Drawings for this work, along with the Specifications for same in addition to the drawings and specifications governing the work of this trade. He shall also visit the site of the proposed construction and familiarize himself with all the site conditions. No subsequent allowances will be made to the Contractor because of his negligence in complying with the above or his alleged inability to understand the requirements.

1.4 CONDUCT OF THE WORK

The Contractor shall maintain on the job a competent foreman or a superintendent at all times to superintend the work.

1.5 CONTRACTOR'S RESPONSIBILITY

The Contractor shall be responsible for the safety and good condition of all materials and equipment until final acceptance by the Owner. He shall erect and maintain suitable barriers, protective devices, lights and warning signs where required for the protection of the public and employees about the buildings. He shall be fully responsible for any loss or injury to persons or property resulting from his neglect or the carelessness and neglect of his employees.

1.6. SUBMITTALS

- A. Shop drawings of power distribution equipment and lighting fixture catalog cuts shall be submitted for approval in seven (7) bound copies.
- B. Equipment or material furnished or incorporated in construction without prior approval of the Architect may be rejected and if rejected shall be removed from the structure and replaced with approved equipment or material at the Contractor's expense.

1.7. RECORD DRAWINGS

See General Conditions.

1.8. CATALOG DATA AND OPERATING INSTRUCTIONS

Upon completion of the work in this Contract, the Architect shall be furnished with a complete set of catalog data which describes each piece of equipment installed under this Contract. The catalog shall be bound in a set and shall be clearly labeled as to each item of equipment used.

PART 2 - LOCATIONS

2.1 The work as laid out is to some extent diagrammatic, and the location thereon indicated may be approximate only. The Contractor, therefore, shall install all the equipment, apparatus, conduit runs and the like as follows:

- A. Adhere to the location indicated as far as possible.
- B. Maintain ample head room in all rooms and passageways, clearance around all apparatus and equipment and under pipe lines for unrestricted passage and for easy servicing of all apparatus, equipment, devices and the like.
- C. Verify the exact locations of all fixtures and other apparatus or devices as indicated on the drawings. In the event these drawings do not sufficiently indicate the locations for all such fixtures, apparatus or devices, the Contractor shall obtain the exact locations from the Architect.

2.2. VERIFICATION OF DIMENSIONS

- A. The Contractor shall, as work progresses, verify the dimensions of the spaces available for the installation of the work and he shall assume full responsibility for the proper locations and grading of each portion thereof.
- B. Where the work requires connections to be made to equipment that is furnished and set in place by others, the Contractor shall obtain exact locations and rough-in dimensions from the manufacturer of such equipment and he shall install the connections in a neat and workmanlike manner.

2.3. CUTTING AND PATCHING

This Contractor shall do all cutting and patching of the work for the installation of the equipment and materials as approved by the Architect and/or Engineer. All patching shall accurately match the adjoining work.

2.4 BORING

- A. Provide mechanical boring equipment to bore under existing asphalt, concrete, or other surfaces or objects as noted on the drawings. All borings shall be a minimum of 24" under the substrate material unless otherwise authorized by the Architect.
- B. Holes shall be bored not to exceed 1" larger diameter than the largest component remaining in the excavation.
- C. Water or air pressure jetting are not permitted, unless they comply with the following requirements:
 - 1. All surfaces of the hole can be visually inspected with 6' maximum length.
 - 2. All objects shall be supported continuously to prevent sagging.
 - 3. The hole shall be filled with compacted damp sand and inspected by the Project Inspector or Materials Testing Lab technician.

2.5. FOUNDATIONS AND SUPPORTS

This Contractor shall provide all foundations, supports and hangers, etc., as required to install the equipment as specified or shown on the drawings. All equipment shall be supported, braced and cross-braced in such manner as to prevent sway and/or lateral movement.

2.6 EXCAVATION AND BACKFILLING

- A. Excavating required for the installation of the work shall be done by this Contractor. Underground lines outside the buildings shall be installed with a minimum cover of 24", except depth of utility services shall comply with respective utility company requirements.
- B. The conduit shall be laid on material described below to afford bearing for the full length of the conduit. Any part of the trench excavated below grade shall be corrected with thoroughly compacted material approved by the Architect.
- C. When the bottom uncovered at subgrade is soft and, in the opinion of the Architect, cannot support the conduit, a further depth shall be excavated and refilled to conduit foundation grade as required by the Architect.
- D. Backfill:
 - 1. 6" Below, Around, and to 6" Above Conduit: Material shall be sand. Place carefully around and on top of conduit, taking care not to disturb conduit. Consolidate with vibrator.

2. 6" Above Conduit to Grade: Material shall be sandy or silty loam, free of lumps, laid in 6" layers, uniformly mixed to proper moisture and compacted to required density. If backfill is determined to be suitable and required compaction is demonstrated by laboratory test, water compaction in 6" layers may be used, subject to review by Engineer.
- E. No excavation below the level of, or adjacent to, foundations of footings shall be made except in a manner approved by the Architect.
- F. A red or yellow tracer tape stating "**CAUTION ELECTRIC LINE BURIED BELOW**" shall be installed 12" above conduit, full length of trench.
- G. Electrical conduit shall not be run in excavations provided for plumbing or heating pipes, unless separated by a minimum of 12 inches.
- H. Verify location of all underground lines with Owner and utility companies before starting excavation. If any utility company facilities are identified and located within the perimeter of the building, the contractor shall stop work, promptly notify the architect and secure his instructions.
- I. Ten (10) days before doing any excavation or trenching contact "Underground Service Alert," 1-800-642-2444, advise them of work schedule and comply with their recommendations.

2.7 CLEANING UP

- A. The Contractor shall keep the premises free from accumulations of his waste material or rubbish. At the completion of the work, he shall remove all his rubbish, tools, scaffolding and surplus materials from and about the buildings, leaving the premises in a clean condition.
- B. All exterior surfaces of exposed equipment and material shall be thoroughly cleaned of all dirt, cement, plaster and other debris, including the exterior surfaces of all conduit, conduit fittings, conduit hangers, insulation and the like.
- C. All surfaces to be painted shall be carefully wiped or otherwise cleaned; cracks and corners scraped out clean, grease and oil spots removed so that surfaces may receive paint without further preparation.
- D. All fixtures and plated materials shall be thoroughly cleaned and polished.

2.8 DAMAGE BY BREAKS

The Contractor shall be responsible for all damage to any part of the premises caused by breaks in conduit or fixtures furnished and/or installed by him under this specification for a period of one (1) year from date of acceptance of the project by the Owner.

2.9 SITE CONDITIONS

- A. Where existing utilities are shown on the plans, extreme care shall be exercised in excavating near these utilities to avoid any damage thereto, and the Contractor shall be held responsible for any such damage caused by this operation.

- B. The general location and arrangement of conduit, equipment apparatus, etc., as shown in the drawings or herein specified and all installations shall be made in accordance therewith. Information on the drawings relative to existing services is approximate only. Minor deviations required to conform to actual locations shall be made without additional cost to Owner.
- C. Should existing utilities, not shown on the plans, be found during excavations, or identified, the Contractor shall promptly notify the Architect for instructions as to further action. Failure to do so will make the Contractor liable for any damage there arising from his operations after discovery of such utilities not shown on the plans. These utilities shall be removed or relocated as directed by the Architect. An equitable adjustment in the Contract will be made for the additional work involved.
- D. The Contractor shall use special precautions where excavations are made in the areas near electrical ducts since they may be high voltage ducts. All such ducts shall be exposed by careful hand excavation so as not to damage the ducts or cause injury to personnel and shall be suitable marked with warning signs, barricades, etc. as required.

2.10 STANDARD PRACTICE

All work not shown in complete details shall be installed in conformance with the best standard practice for the trade.

2.11 INTENT

It is the intention to provide systems that are complete in every respect without further cost to the Owner. Anything not shown in drawings, or indicated in the specifications, but required for complete operating systems shall be included as part of this Contract. This shall include all connections to existing services.

2.12 SPECIAL NOTE

Attention of Contractor is hereby called to all work covered by notes on the drawings. Work covered by notes must be furnished and installed whether it is specifically mentioned in these specifications or not.

2.13 GUARANTEE

Except as otherwise specified, all materials, apparatus equipment furnished and installed under the Electrical Section of this specification shall be new and free from all defects. Should any trouble develop within a period of one (1) year from date of acceptance of the work, due to inferior or faulty material and/or workmanship, the trouble shall be corrected and material and equipment replaced by the Contractor without expense to the Owner.

2.14 SERVICES

The location of any existing utility services shown on the drawings is approximate and shall be checked by this Contractor for exact location. Refer to "EXCAVATION AND BACKFILLING" for additional requirements.

2.15 LIST OF MATERIALS

Within thirty (30) calendar days after the award of the Contract, the Contractor shall submit seven (7) copies of a complete list of materials to be installed under this Contract, giving, in the case of each item of material to be used, the name of the article. All substitutes must be approved by the Architect as stipulated in the General Conditions, paragraph 6d.

2.16 ACCESS OPENINGS

It shall be the responsibility of the Contractor to provide sufficient and convenient access openings, panels, etc., in the building construction where required for the maintenance of, installation and/or removal of all equipment, or other items of the various systems and equipment.

2.17 PURCHASE ORDERS AND ACCEPTANCE

- A. The Contractor shall file with the Architect two (2) certified copies of all purchase orders, for materials, equipment, appliances and rentals thereof within two (2) weeks from date of Notice to Proceed with the Contract if requested by the Architect.
- B. The Contractor shall file with the Architect two (2) certified copies of acceptance of purchase orders for materials, equipment, and appliances by the manufacturer, distributor or wholesale house within six (6) weeks from the date of Notice to Proceed with the Contract if requested by the Architect.
- C. Failure to provide same within the stipulated time shall be deemed sufficient cause for the Architect to withhold certificates of payment for work completed or materials and equipment provided by the Contractor or his subcontractors toward the completion of their Contracts.

END OF SECTION 16100

SECTION 16200

BASIC ELECTRICAL MATERIALS AND METHODS

PART 1 - SCOPE OF WORK

1.1 RELATED DOCUMENTS

- A. Drawings and general provisions of Contract, including General and Supplementary Conditions, Divisions 0 and 1 and Section 26 6000 specifications apply to work of this section.

1.2 This portion of the work includes the furnishing of all labor and materials necessary for the complete wiring system to outlets and all equipment shown on the drawings or covered by this Section of the Specifications or other Division 26 and Division 28 sections of Specifications. In general, the work includes the following:

- A. Complete system of conduits, substructures and equipment for power service. The Electrical Contractor shall inform the respective utility company that the project has been started and confirm that all forms, which are required for the Application for Service, have been completed and submitted to the Utility Company. The Electrical Contractor shall obtain a copy of the approved engineering drawings prior to construction.
- B. Complete system of branch circuit wiring, conduit and distribution equipment for lights, receptacles and power.
- C. Furnish and install lighting panelboards, lamps, lighting fixtures, wall switches, convenience outlets, etc. as shown on drawings.
- D. All hangers, anchors, sleeves, chases and supports for fixtures, all electrical equipment and materials.
- E. Furnish, install and connect wire, conduit and switches, etc. required for other equipment covered by other sections of these Specifications.
- F. All excavating and backfill as required for electrical work.
- G. The patching and repair of all work modified or damaged by the installation of work under this contract.
- J. Demolition work.
- H. The Contractor shall furnish and install all work necessary to make complete systems, whether or not such details are mentioned in these Specifications or shown on the drawings, but which are necessary in order to make complete working systems, excepting only those portions that are specifically mentioned therein or plainly marked on the accompanying drawings as being installed by other Contractors.

- I. Electrical Contractor must coordinate his work with the work of other trades so as to provide raceways, conductors and outlets in the correct location for the equipment served, including all built-in appliances, mechanical, and signal equipment and connect same. Electrical Contractor must provide power of the correct voltage and phase to each item of equipment.
- J. Before construction starts, the electrical contractor shall arrange a coordination meeting with the General contractor and all other sub contractors supplying equipment that requires electrical connections. All electrical requirements shall be verified and any problems shall be immediately reported to the architect. Equipment items to verify shall include but not be limited to: Voltage, amps, phase, location, orientation, space requirements, type of connection, starter and disconnect location and provision, control system operation and requirements, etc.
- K. The above list is given for the convenience of the contractor and is not considered all-inclusive.

PART 2 -TEMPORARY CONSTRUCTION POWER

- 2.1 Provide a temporary construction power system that is adequate for this project. Coordinate requirements and details with the general contractor. All 120V, 15A and 20A receptacles shall have ground fault circuit interrupter protection.

PART 3 -WORK NOT INCLUDED

- 3.1 The furnishing and installation of motors.
- 3.2 Access panels.

PART 4 - MATERIALS

- 4.1 All materials, appliances and equipment except that furnished by the Owner shall be new, bear U.L. Label and of the make, brand or quality specified or as accepted by the Architect as herein provided. This shall also apply to all parts of the work whether or not this particular paragraph is referred to by number.
- 4.2 All apparatus, conduit systems, etc., shall be installed and interconnected so as to form complete systems as herein specified and/or shown on all the accompanying drawings. This contractor shall furnish and install all work necessary to make complete working systems, excepting only those portions that are specifically mentioned herein or plainly marked on accompanying drawings as being furnished by other contractors.
- 4.3 MAIN SWITCHBOARD
 - A. Dead front, dead rear, floor standing, consisting of underground pull section, main section with main circuit breaker and equipment to accommodate power company's current transformer and meter, distribution section and sub-feed circuit breakers as shown on drawings. Main switchboard shall be as manufactured by Square D, General Electric, Eaton, Siemens or approved equal.

- B. Circuit breakers shall be molded case type, quick-make, quickbreak, with thermal magnetic trip. Size and rating shall be as shown on the drawings. All circuit breakers shall be bolt-on type. Two and three pole breakers shall have integral internal common trip. All circuit breakers, rated 100 amps and larger, shall be equipped with adjustable instantaneous trip settings.
- C. Finish shall be one coat of rust-inhibiting primer and two coats of gray enamel.
- D. Full-size buses shall extend the full height of the distribution section. A copper ground bus shall be provided firmly secured to each vertical section structure and shall extend the entire length of the switchboard.
- E. Section or sections shall be fully bussed with either copper or tin-plated aluminum bussing with all hardware in place for future devices. The bussing shall be braced to withstand the fault current of 50,000A symmetrical minimum. Filler plates as required shall be supplied with two handles on each plate. Sub-feed devices shall be of the types indicated on the drawings and shall be lockable in the "Open" position. A nameplate shall be supplied for each device in each section of each switchboard affixed to the switchboard trim adjacent to device and indicating name of device as shown one line diagram. Black letters shall be minimum $\frac{3}{4}$ " high on white micarta tabs.
- F. All circuit breakers in main switchboard shall have short circuit current interrupting capacity exceeding the maximum available at service transformer. Contractor shall be responsible for obtaining fault current information from serving Utility Company prior to fabrication of main switchboard. The main switchboard shall have an integrated short circuit current interrupting rating of minimum of 30,000A symmetrical, or greater if indicated on drawings.
- G. Underground pull sections shall be manufactured by the same manufacturer of the main switchboard and per the serving Utility Company's requirements.
- H. The Electrical Contractor shall submit three (3) copies of the main switchboard shop drawings to the Serving Utility Company for their approval prior to fabrication of the main switchboard.

4.4 PANELBOARDS

- A. The panelboards shall be constructed in accordance with the standard set up by the Underwriters' Laboratories, Inc., and as manufactured by Square "D", General Electric, Eaton, Siemens or approved equal, and each shall contain the number and type of circuit breakers as indicated on the drawings. All circuit breakers, rated 100 amps and larger, shall be sub-feed type and equipped with adjustable instantaneous trip settings.
- B. The panelboards shall be equipped with a hinged lockable door, piano hinged trim and typewritten circuit directory. All finish in offices, corridors or areas subject to public view shall be prime coat for finish coat by painter. In storage rooms, equipment rooms, etc., finish shall be standard factory gray Hammertone. Provide a flush lock on all panelboards.

- C. Seven copies of detailed construction drawings for the panelboards and terminal cabinets shall be submitted to the Architect for Approval before their construction is started.

4.5 RACEWAYS AND FITTINGS

- A. Shall be as manufactured by Allied Tube and Conduit Corporation, AFC Cable Systems, Inc. Carlon, Cantex, PW Pipe or approved equal.
- B. Galvanized rigid steel conduits (RSC) may be used in all locations.
 - 1. For underground runs in direct contact with earth, conduit shall be wrapped with PVC tape or shall have factory applied PVC coating.
 - 2. Galvanized intermediate metallic conduit (IMC) may be used in indoor locations not in direct contact with earth.
- C. Galvanized electrical metallic tubing (EMT) may be used in indoor dry locations in which it is:
 - 1. Not subject to physical damage.
 - 2. Not in direct contact with earth.
 - 3. Not in concrete slabs.
 - 4. Not in hazardous areas.
 - 5. On roof or walk cover when specifically shown on drawings.
 - 6. In masonry walls, not in same cells as rebars.
- D. Non-metallic rigid conduit shall be PVC Schedule 40 and may be used:
 - 1. Underground.
 - 2. Below concrete slab on grade.
 - 3. In concrete slab on floors above grade.
- E. Flexible steel conduit may be used in dry locations for final connections to:
 - 1. Motors, transformers and other mechanical equipment, not to exceed 18 inches.
 - 2. Lighting fixtures, not to exceed 72 inches.
 - 3. Facilitate wiring in tight locations, when approved by Engineer.
- F. Flexible aluminum conduit may be used in walls or in attics to facilitate wiring in tight locations, when approved by the Engineer.
- G. Liquid-tight flexible steel conduit shall be used in outdoor or wet locations for final connection to motors or other mechanical equipment, not to exceed 18 inches.
- H. Fittings:
 - 1. For rigid and intermediate steel conduits, fittings shall be:
 - a. Galvanized rigid steel threaded type.

2. Provide insulated grounding bushings at switchboard enclosures and panel enclosures for feeders.
 3. For electrical metallic tubing (EMT), fittings shall be:
 - a. Zinc plated steel set screw type in dry locations.
 - b. Zinc plated steel compression type for conduits larger than 1", in wet locations and in masonry walls.
 - c. All connectors shall have an insulated throat.
 4. For non-metallic conduits, fittings shall be PVC Schedule 40 type. Use PVC schedule 40 adapters at all boxes and panelboards..
 - a. Brush or dauber apply PVC cement.
 - b. All PVC components, (conduits, fittings and cement) shall be of same manufacturer.
 - c. For flexible metallic conduits, fittings shall be zinc plated steel/malleable iron squeeze type.
 5. For liquidtight flexible metallic conduits, fittings shall be zinc plated steel/malleable iron compression type.
- I. Use of the following is prohibited:
- a. Crimp-on, tap-on or indenter type fittings.
 - b. Spray (aerosol) PVC cement.

4.6 PULL BOXES

- A. Pull Boxes shall meet all code requirements as to size for conduits terminating therein and to thickness of material used in fabrication.
- B. Fabricated sheet steel pull boxes shall be installed only in dry, protected locations and shall be furnished with knockouts and removable screw cover. Box shall be finished with one coat of zinc chromate and a coat of primer sealer and where exposed to public view shall be painted to match the surrounding surface.
- C. Weatherproof sheet steel pull boxes shall be fabricated of code gauge galvanized sheet steel with two coats of rust resistant finish and shall be furnished with gasket and made completely weather tight.
- D. Approved manufacturers for metal boxes are Cooper B-Line, Milbank, Hoffman approved equal.
- E. Weatherproof concrete pull boxes, junction boxes and telephone boxes shall be manufactured by Christy Concrete Products or approved equal. All pull boxes shall be H/20 rated and be equipped with H/20 rated galvanized steel checker plate cover marked "Electrical or "Power".

4.7 TIME SWITCHES

- A. Time switch shall be a two circuit digital time clock with photocontrol input, battery back-up and a surface enclosure. Provide a flush enclosure when indicated. Tork #DGLC (120V) or DGLC-3 (277V) or approved equal.

4.8 OUTLET BOXES

- A. All outlet boxes shall be standard one or two piece galvanized knockout outlet boxes. Raco, Appleton, Thomas and Betts or approved equal.
- B. All outlet box covers, rings or other fittings shall be standard galvanized. Raco, Appleton, Thomas and Betts or approved equal.
- C. No outlet box shall be smaller than four inches (4") square and 1 ½" in depth, except in concrete block construction where Raco, Appleton and Thomas and Betts concrete masonry boxes are approved.
- D. All special outlets shall be as hereinafter specified or as shown on drawings.
- E. Thru boxes are not permitted.
- F. Any unused boxes shall be equipped with a blank cover plate.

4.9 RECEPTACLES

- A. Furnish and install an industrial specification grade 20A, 125 volt, 3 wire grounding type duplex receptacle with one piece brass mounting strap at all receptacle outlets as indicated on drawings. Leviton #5362-I or equal as manufactured by Hubbell, Pass and Seymour, Cooper or other approved manufacturers.
- B. Device color to be ivory.
- C. G.F.C.I. duplex receptacles shall be provided for 15 and 20 amp 125 volt circuits where required by the C.E.C. #210.8 and #590.6. At indoor locations, provide a Leviton #GFNT2-W or equal. At exterior locations, provide weather-resistant type G.F.C.I. duplex receptacles, Leviton #WBR20-W or equal. At damp locations, provide a diecast weatherproof lockable cover, RACO # 5028-0 or equal. At wet locations, provide a diecast weatherproof "while-in-use" lockable cover, Red Dot #CKSUV or equal.

4.10 LOCAL SWITCHES

- A. Furnish and install industrial specification grade, quiet type toggle switches, 20 AMP rated 120/277V AC only, controlling wall and ceiling outlets as indicated on the drawings. Leviton #1221-2I or equal as manufactured by Hubbell, Pass and Seymour, Cooper or other approved manufacturers.

- B. Where two or more switches are in proximity they shall be ganged in the same box and they will be set under one plate. Switches controlling lights and/or outlets on emergency power shall be kept entirely independent of all other switches not on emergency power by mounting in a separate box.
- C. Special receptacles or switches shall be as noted on drawings.
- D. Where key switches are noted on the drawings, provide Leviton #1221-2KL.
- E. Device color to be ivory.
- F. When a switch is used as a disconnecting means, it shall be mounted in a readily accessible location.

4.11 WALL PLATES

- A. All wall plates for electrical outlets and devices shall be smooth stainless steel, non-magnetic type 302S.
- B. All telephone outlet plates shall be blanked plates.

4.12 CONDUCTORS (Wire)

- A. All wire installed in this contract shall be of a standard manufacturer as approved by the National Board of Fire Underwriters and be of the size as indicated on the drawings. All wire shall bear the Underwriters' label and shall be brought to the job in unbroken packages and approved by the Job Inspector before it is installed.
- B. All power conductors, #10 AWG and smaller shall be type THWN copper, unless otherwise noted. All conductors #8 AWG and larger shall be type THWN-2 copper, unless otherwise noted.
- C. Number 12 AWG wire shall be the smallest gauge wire used, except for signal circuits, which shall be as shown on plans or as specified under other sections of these specifications.
- D. All wire #8 AWG gauge or larger shall be stranded.
- E. The neutral conductor of all lighting feeders shall be of the same size as the phase conductors.
- F. Splices on all wire less than #8 gauge shall be with insulated spring connectors Ideal "Wing Nuts", 3M "Scotchlok", or equal.
- G. Splices in wires #8 gauge and larger shall be made with crimp on solderless, Burndy or equal. Connectors to switches or bus bar shall be made with one piece lugs for all wires, sized for conductors as shown on plans.

- H. Each branch circuit shall be marked with the circuit number at the panel and at the first outlet nearest the panel. E-Z Code Markers (Thomas and Betts) or equal shall be used to label the circuits.

4.13 LIGHTING FIXTURES

- A. This Contractor shall submit for approval seven (7) portfolios with full description and manufacturer data sheets of all fixtures (including ballasts and lamps), that he proposes to use.
- B. This Contractor shall furnish and install all lighting fixtures and lamps as indicated on the Electrical Drawings and in accordance with these specifications.
- C. This Contractor shall be held responsible for the complete equipment of all fixture outlets with fixtures of the proper design as shown.
- D. All fixtures shall be securely anchored to prevent any possible chance of their falling.
- E. Continuous runs of fixtures shall be installed straight and true.
- F. Before submitting a proposal, each bidder shall determine that all fixtures will perform satisfactorily in the application shown on the plans. There shall be no nuisance tripping of its thermal element. By the act of submitting a proposal, each bidder shall be deemed to have made such determination and it will be assumed that he is familiar with, accepts and has based his proposal on all existing conditions and limitations applying to the work.
- G. When fixtures are equipped with integral emergency battery packs the fixtures shall be wired so that all lamps switch on and off via the room light switch and the emergency lamp(s) are automatically energized if the wall switch is in the "on" position and normal power has failed.

4.14 PHOTO CONTROL

- A. Paragon or equal, adjustable type.

4.15 MOTOR DISCONNECTS

- A. Disconnects shall be fused safety switches with dual element fuses. Heavy Duty rated with quick-make, quick-break operating mechanism. Fuse rating shall comply with motor manufacturer's recommendations. Switch shall be UL listed. Disconnects shall have an external operating handle, lockable in the open or closed position.
- B. Disconnect switches shall be located so as not to obscure any part of the HVAC unit's nameplate data.

- C. Each disconnect switch shall have a nameplate identifying the panel and circuit number that feeds the motor. Nameplates shall comply with specifications for "Identification of Switches and Apparatus".

PART 5 - GENERAL REQUIREMENTS AND INTALLATION

5.1 CONDUIT SYSTEMS

- A. A concealed conduit system shall be installed for all interior wiring including controls. Conduit shall be run continuous between outlets, etc., and with the minimum number of bends.
- B. PVC 40, galvanized rigid steel wrapped with PVC tape or galvanized rigid steel with factory applied PVC coating shall be used for underground runs.
- C. Where underground conduit cannot be run below building footings and the Contractor shall provide PVC-80 sleeves through the footings (Contractor shall obtain approval for all sleeve sizes and locations with the Structural Engineer before installation).
- D. All conduit shall be delivered to the site of construction in their original bundles. Each length of conduit shall bear the label of the National Board of Fire Underwriters. All conduit subjected to rough usage while on the job before installation and not acceptable to the Architect shall be removed from the premises upon notice.
- E. Conduit installed in masonry walls shall be rigid steel galvanized conduit, PVC or EMT, not in same cell as re-bars.
- F. The joints in all conduits installed under concrete slabs on the ground, or underground, or exposed to the weather, shall be made liquid and gas-tight. All underground conduit outside of the buildings shall be buried to a depth of not less than 24" below finish grade. Utility services shall comply with utility company requirements. Two or more conduit runs installed in a common trench shall be separated horizontally by at least four inches (4"). Electrical conduit runs installed in a common trench with other utility lines shall be separated horizontally from such lines by at least twelve inches (12").
- G. Changes in direction shall be made with conduit sweep elbows or long radius bends made on the job. Where two or more conduits are grouped in exposed locations, the sweeps shall be struck from the same center forming concentric arcs.
- H. All joints in conduit shall be made with standard coupling. In making joints, conduits must be truly and accurately cut and threaded (where applicable) with straight thread, smoothly reamed and squarely butted. All conduit shall be kept corded and dry during construction, using plastic caps or conduit pennies held in place with conduit bushings. Should dirt or moisture collect in any conduit, the Contractor shall swab them out to the satisfaction of the Architect.

- I. Conduits ending at the motors shall be carried as close as possible to the terminal blocks making allowance for the movement of the motors when they are equipped with slide rails. The connection between the conduit terminals on the motor and the conduit shall be made with liquid-tight flexible conduit using the proper fittings.
- J. All conduits where they enter panel enclosures, pull boxes, or outlet boxes shall be secured in place by galvanized locknut inside of box.
- K. Where conduits are run exposed, they shall be installed straight and true with reference to the adjacent construction.
- L. Any conduit installed under building shall be under the slab. The top of any conduit below floor slab shall be a minimum of 4" below the bottom of the concrete slab.
- M. All boxes for bracket outlets shall be equipped with a 3/8" "No-Bolt" fixture stud. These boxes shall be so set that when in place the fixture shall be at right angles to the ceiling or walls.
- N. All empty conduit shall be equipped with a nylon pull rope continuous from outlet-to-outlet or end-to-end.
- O. Flexible conduit will be permitted for connecting lighting fixtures to junction boxes.
- P. Flexible connections in outdoor and damp locations shall be flexible liquid-tight metal conduit or non-corrosive seamless metallic tubing with watertight connections.
- Q. The maximum allowed length of flex conduit at equipment connections is 18".
- R. Expansion joints for conduit shall be provided where required to compensate for and contraction.
- S. At all sub-panels and terminal cabinets, stub two 1"C and two 3/4"C into the accessible attic space. If the attic space is not accessible, stub conduits to a location as directed by Architect or Engineer.
- T. Any conduit entering underground pull boxes shall be sealed to prohibit water from entering the conduit. Conduits with conductors shall be sealed with a sealing compound after all conductors have been installed. Spare (empty) conduits shall be capped.

5.2 OUTLETS

- A. In general, the locations of electrical outlets shall be as shown on the drawings; however, the Contractor shall make any changes necessary to suit conditions on the job or rearrangement of built-in fixtures and equipment as directed by the Architect or his representative.

- B. The Contractor shall study the general building plans with relation to spaces surrounding each outlet in order that his work may fit the work of others and that when fixtures or other equipment are installed they will be symmetrically located according to room layout. Refer all conflicts and discrepancies promptly to the Architect.

5.3 OUTLET BOXES

- A. Outlets for concealed wiring shall be flush with the finished wall or ceiling surfaces. Pull boxes, junction boxes and all others to which no fixture or device is to be attached, shall be fitted with blank cover plates and painted to match surroundings. In order to reduce noise transmission between rooms, outlet boxes shall not be installed back to back. Where outlets are side by side and faced into opposite rooms, the boxes shall be at least 6" apart, except in fire rated walls space boxes at least 24" apart. If the boxes are connected together, the connection shall be flexible and shall have openings packed with fiberglass.
- B. The Electrical Contractor shall inform himself of wall thickness throughout the building and shall provide outlet boxes of suitable depth that can be flush mounted and yet will be deep enough to contain the particular apparatus involved. Location of exposed pull or junction boxes will be subject to the Architect's approval.
- C. Outlets from which lights are suspended shall have approved 3/8" fixture studs fastened through from back of box. All outlet boxes and particularly those supporting fixtures shall be securely anchored in place in an approved manner. Support outlet boxes and fixtures in acoustic ceiling areas from building structures, not from acoustic ceilings. All lighting fixture outlets shall be coordinated with mechanical, architectural, or other equipment to eliminate conflicts and provide a workable, neat installation.
- D. Where more than one switch occurs at the same location, use multiple gang outlet boxes covered by a single plate; provide box partitions as required by the C.E.C. Switches controlling lights and/or outlets on emergency power shall be kept entirely independent of all other switches not on emergency power by mounting in a separate box.
- E. Outlet box extensions shall be UL listed and shall be attached to box with threaded metal screws, Bridgeport "REX" series or equal. "Flash guards" are not permitted to be used as box extensions.

5.4 LOCATIONS OF OUTLETS

- A. The Architect reserves the right to make reasonable changes in the indicated locations before work is roughed in without additional charge to the Owner.
- B. Where wainscot occurs at the 4'-6" level, the switch shall be mounted lower in the wainscot as near the 4'-0" level as possible, but in no case, shall the switch be partially in the wainscot and partially in the wall. It shall be the Electrical Contractor's responsibility to verify all door swings. Switches, unless specifically

noted, shall be on the strike side of the door. If switch is indicated on hinged side of door, verify location with Architect.

5.5 CONDUCTOR IDENTIFICATION AND INSTALLATION

- A. The drawings indicate the arrangement of outlets on each branch circuit and the circuit tags show the number of the circuit, and the board to which it will be connected. Circuits indicated with the same numbers shall be connected to the same breaker on the panelboard.
- B. All feeders and branch circuits shall be tagged in all pull boxes and in the gutters of all panels to which they connect.
- C. All wiring shall be done in identified neutrals.
- D. No wire shall be installed until all work of other contractors that might cause injury to the said wire has been completed. Care shall be used to pull wires to insure that no damage occurs to the insulation. A wire lubricant shall be used for pulling in wires.
- E. In making the connection of all branch circuits to the terminals of switches, base plugs, etc., the wires shall be looped around the binding screws or be fitted with connecting lugs. At the ceiling outlets, this Contractor shall leave not less than 6" of free ends on each wire for connections to the fixtures.
- F. No splices shall be permitted except in outlet boxes, and in panelboard gutters.
- G. Switches and receptacles shall be securely fastened to the outlet box. Where the outlet box covers are back of the finished walls the switch or receptacle shall be built out from the same with washers so that it is rigidly held in place to the box. The floating of any switch or receptacle will not be permitted.
- H. All power wiring size #6 AWG and smaller, shall be factory color-coded. For larger than #6, mark conductors on each end and at all junction and/or pull boxes with a 1" band of colored pressure-sensitive plastic tape. For isolated ground wires, mark with a 1" band of green tape, followed by a 1" band of yellow tape, followed by a 1" band of green tape. Colors for each phase and the neutral shall be consistent throughout the system. Color code shall be as follows:

WIRE	120/240V
Phase A	Black
Phase B	Red
Neutral	White
Equip. Ground	Green

The white or gray conductor shall be the neutral at each outlet. All switches shall be installed in "hot" leg. On all lighting circuits the switch leg shall be purple from switch to fixture.

- I. Conductors having white, gray or green covering shall not be used to indicate other than neutral or grounding. This limitation applies to all power, lighting, and control circuits.
- J. Installation of conductors shall be made in a neat and workmanlike manner to meet Code requirements and shall be run continuous without weld, splice or joint between boxes. Do not install wires in conduit unless the entire system of conduit and outlet boxes is permanently in place. All conductors shall be pulled using a UL approved wire lubricant.
- K. Make all terminations at motors using 3M Series 5300 Motor Lead/Cable Splicing Kits. Make connections per 3M written installation procedures.
- L. On all bolted electrical connections, the contractor shall use Belleville washers.
- M. All wiring to be neatly bundled and tied with nylon cord or plastic straps.
- N. When approved by the Electrical Engineer, splices in underground pull boxes shall be made with crimp on compression connectors and insulated with heat shrink sleeves or with splice kits listed by the manufacturer for wet locations. Wire nuts are not permitted. Cables and/or conductors for the fire alarm signals systems shall not be spliced.

5.6 GROUNDING

- A. The conduit system supports, cabinets, switchboards, etc., and neutral conductors must be permanently and effectively grounded, accordance with Title 24 of the California Code of Regulations. The neutral shall only be grounded at the main service location unless specifically noted otherwise on the drawings or required by the California Electrical Code.
- B. This Contractor shall exercise every precaution to obtain good contacts at all panel boxes, pull boxes, etc.: where it is not possible to obtain good contacts, the conduits shall be bonded around the boxes with a #6 AWG conductor with ground clamps.
- C. All equipment cases, motor frames, etc. shall be completely grounded to satisfy applicable code requirements.
- D. At each building, the interior hot and cold water piping and the interior aboveground gas piping shall be bonded to the building service equipment per C.E.C. #250.104.
- E. Do not use underground gas piping as a grounding electrode.
- F. Pull a green equipment ground conductor in all power conduits, both metallic and non-metallic.

- G. Each disconnect switch shall have a ground connector (lay in wire type) which shall be used for grounding the disconnect enclosure. The ground wire shall continue and be connected to the enclosure of the equipment served.
- H. Where there is more than one building supplied from a common service, provide a grounding electrode at each building per C.E.C. #250.32.

5.7 MOUNTING HEIGHTS OF EQUIPMENT

- A. Unless otherwise specified elsewhere or shown on the plans, the following mounting shall apply:
 - 1. Panelboards: 6'-0" top of box
 - 2. Disconnect Switches: 4'-0" to center line
 - 3. Contactors: 4'-0" to center line

5.8 IDENTIFICATION OF SWITCHES AND APPARATUS

- A. All switchboard circuits, externally operated switches and apparatus used for the operation of or control of circuits, appliances, or equipment shall be properly identified with bakelite nameplates, 1" x 3", black letters on white background. All such nameplates shall be of the self-adhesive type and attached onto the apparatus by screws or rivets. Card holders in any form are not acceptable.

5.9 EARTHQUAKE PROOFING OF LIGHT FIXTURES

- A. Fixtures weighing more than 50 pounds shall be supported independently of the outlet box.

5.10 FIRE RATED AREAS

- A. Where light fixtures, conduit, cabinets, or boxes penetrate fire rated ceilings, walls or floors provide a fire rated enclosure or fire stop. Rating of enclosure or fire stop shall match or exceed rating of area penetrated. Verify location of fire rated areas with architectural drawings and with General Contractor.
- B. Where outlet boxes are recessed on opposite sides of a fire rated wall, boxes shall be separated by a horizontal distance of at least 24 inches. Where the wall opening for a steel electrical outlet box exceeds 16 sq. inches in area, or an aggregate of more than 100 sq. inches for any 100 sq. feet of wall or partition area, fire stopping is required.
- C. Penetrations in walls, floors or ceilings requiring protected openings shall be fire-stopped. Fire-stopping shall be of an approved material, securely installed and be in conformance with the 2016 C.B.C., Section 712.4.1.1 and 712.4.1.2.

PART 6 - MISCELLANEOUS:

6.1 MISCELLANEOUS EQUIPMENT

- A. Contractor shall be responsible for electrical hook up and connections to all electrical equipment whether furnished by this Contractor or others, including wiring, conduit, disconnects, circuit breakers etc., even if not shown on drawings. Verify all locations and requirements with equipment supplier before rough-in.
- B. When there are fire sprinklers, the electrical contractor shall connect bell, flow and tamper switches and other electrical devices as required by sprinkler contractor and local and state fire marshal. Verify requirements with general contractor before bid.

6.2 INTERRUPTION OF SERVICE

- A. Interruption of service in existing buildings shall not be made at a time, which will buildings or doing any other work that will interrupt the service, the Contractor shall consult with the Owner and schedule the work at Owner's convenience even if it is necessary to make such connections after regular working hours.
- B. This Contractor shall do all rerouting and reconnecting of existing electrical facilities made necessary by this construction. Care shall be taken not to disrupt existing facilities. If any facilities are disrupted, this Contractor shall replace or repair them at his expense and to the satisfaction of the Architect.

6.3 CHANGES

- A. Electrical Contractor shall consider the number of outlets for electric equipment shown on plans as final, but the Architect reserves the right to shift same, within reason, to a location and position which will meet more completely final requirements.

6.4 GUARANTEE AND TESTS

- A. All electrical equipment testing and related costs shall be included in the contractor's bid.
- B. Contractor shall obtain approval from the architect of proposed independent testing agencies before any testing is started.
- C. Equipment of all kinds installed by this Contractor shall be tested to determine whether it fulfills the requirements of these specifications. The Contractor shall furnish all labor necessary to adjust the operation of the apparatus and make the connections for the tests. After the tests have been completed, the Contractor shall restore all connections, apparatus, etc., to their original condition.
- D. Should any piece of apparatus or any material or work fail in any of these tests, it shall be immediately removed and be replaced with new material by this Contractor at his expense and the portion of the work replaced be again tested by the Contractor.

- E. All circuit breakers, 100 amps or more, shall be tested by an independent testing agency in accordance with NETA specifications and a report submitted to the Architect. Any circuit breaker that does not pass the test shall be replaced.
- F. The entire installation shall be free from short circuits and improper grounds. Panels and circuits shall be tested for grounds and shorts. Each individual circuit shall be tested at the panel with the equipment connected for proper operation. Ground tests shall meet the requirements of the California Electrical Code. Upon completion of the work, a final inspection by the Architect and other interested authorities shall be conducted. This Contractor shall guarantee to repair or replace at his expense any material or equipment that develops defects or is determined not to be in conformance with the plans and specifications, during a period of one year after work is accepted by the Owner.
- G. The grounding electrode system at the main electrical service equipment shall be tested by an independent testing agency in accordance with the three point fall of potential method as specified in IEEE Standard 81-1983. Maximum ground resistance shall be 25 OHMS. A copy of the test report shall be submitted to the architect and engineer of record.
- H. The independent testing agency performing the above mentioned tests shall be NETA or NICET certified.

6.5 TEST PARAMETERS:

- A. System neutral insulation shall be a minimum of one hundred (100) ohms.
- B. Relay pickup current shall be set to a value between 20% and 25% the rating of the main circuit breaker. The setting shall be the in-service setting unless otherwise specified.
- C. Relay time delay shall be the closest possible calibrated setting to .1 seconds. This shall be the in-service setting unless otherwise specified.

6.6 DEMOLITION

- A. Remove and/or relocate electrical facilities as required to clear areas for new construction.

6.7 UTILITY COMPANY SERVICE CHARGES

- A. All service charges shall be paid by the owner. Monthly energy charges shall be paid by the Electrical Contractor.

END OF SECTION 16200