

**SUBMITTAL TO THE BOARD OF SUPERVISORS  
COUNTY OF RIVERSIDE, STATE OF CALIFORNIA**

356



**FROM:** Economic Development Agency

**SUBMITTAL DATE:**  
April 14, 2011

**SUBJECT:** Palm Desert Library Renovation – Plans and Specifications

**RECOMMENDED MOTION:** That the Board of Supervisors:

1. Approve the plans and specifications for the Palm Desert Library Renovation and authorize the Clerk of the Board to advertise for bids; and
2. Delegate project management authority for the project to the Assistant County Executive Officer/EDA in accordance with applicable Board policies.

**BACKGROUND:** On January 11, 2011, the Board of Supervisors approved the schematic design for the Palm Desert Library Renovation and authorized the architect to proceed to the design development and construction document phases of the project.

(Continued)

*Robert Field*

Robert Field  
Assistant County Executive Officer/EDA

<b>FINANCIAL DATA</b>	Current F.Y. Total Cost:	\$ 0	In Current Year Budget:	Yes
	Current F.Y. Net County Cost:	\$ 0	Budget Adjustment:	No
	Annual Net County Cost:	\$ 0	For Fiscal Year:	2010/11

**COMPANION ITEM ON BOARD OF DIRECTORS AGENDA:** No

<b>SOURCE OF FUNDS:</b> City of Palm Desert Redevelopment Agency, Library Improvement District Fund	Positions To Be Deleted Per A-30	<input type="checkbox"/>
	Requires 4/5 Vote	<input type="checkbox"/>

**C.E.O. RECOMMENDATION:** APPROVE  
*Jennifer L. Sargent*  
BY: Jennifer L. Sargent

**County Executive Office Signature** Jennifer L. Sargent

**MINUTES OF THE BOARD OF SUPERVISORS**

On motion of Supervisor Buster, seconded by Supervisor Benoit and duly carried by unanimous vote, IT WAS ORDERED that the above matter is approved as recommended.

Ayes: Buster, Tavaglione, Stone, Benoit and Ashley  
Nays: None  
Absent: None  
Date: April 26, 2011  
xc: EDA, CIP, COB

Kecia Harper-Ihem  
Clerk of the Board  
By: *Kecia Harper-Ihem*  
Deputy

Prev. Agn. Ref.: 3.28 of 1/11/11; 3.31 of 7/13/10

District: 4

Agenda Number:

3.16

ATTACHMENTS FILED  
WITH THE CLERK OF THE BOARD

Reviewed by  
*Stephan*  
Departmental Conc. *Stephaner Hans*  
DATE: 4/14/11  
BY: MARSHAL VICTOR

Dep't Recomm.:  Consent  Policy   
Per Exec. Ofc.:  Consent  Policy

**BACKGROUND:** (Continued)

The bid documents are near completion and have been submitted to the State of California Division of the State Architect (DSA) for approval. In an effort to expedite the project and have the renovation occur in a period of low use months, the Economic Development Agency (EDA) requests approval to solicit bids for construction of this project with a bid closing date after DSA has approved the bid documents. EDA will return to the Board under separate cover to approve the project budget and execute any related project agreements.

All costs associated with this project will be fully funded by the City of Palm Desert Redevelopment Agency and Library Improvement District Fund. Thus, no net county cost will be incurred as a result of this agreement.

SPECIFICATIONS AND CONTRACT DOCUMENTS  
FOR

**Palm Desert Library Renovation FM0811000005**



PREPARED BY  
COUNTY OF RIVERSIDE  
Economic Development Agency  
DESIGN & CONSTRUCTION DIVISION  
April 2011

FORM APPROVED COUNTY COUNSEL  
BY: MP Victor 4/14/11  
MARSHAL VICTOR DATE

APR 26 2011 3.16 pas

## TABLE OF CONTENTS

Notice Inviting Bids	1
Instructions to Bidders	2
Contractor's Proposal	4
Bid Bond	1
Agreement Form	1
Payment Bond	1
Performance Bond	1
Contractor's Certificate Regarding Workers' Compensation	1
General Conditions	44
Specifications (Set)	1

**SECTION 00005**  
**TABLE OF CONTENTS**

**DIVISION 0 -- CONTRACT REQUIREMENTS**

- 00001 - Cover Page
- 00005 - Table of Contents
- 00010 - Project Directory
- 00700- General Conditions County of Riverside

**DIVISION 1 -- GENERAL CONDITIONS -- COUNTY PROJECTS**

- ~~01030 - Post-Bid Interview~~
- 01049 - Supporting from Structure
- 01200 - Project Meetings
- 01350 - List of Required Submittals
- 01410 - Testing Laboratory Services
- 01730 - Operation and Maintenance Data
- 01900 - List of Project Close-Out Items

**DIVISION 2 -- SITE WORK**

- 02070 - Selective Demolition and Reconstruction
- 02510- Asphalt Concrete Paving
- 02550 - Site Concrete Work

**DIVISION 3 -- CONCRETE**

- 03100 - Concrete Formwork
- 03210 - Concrete Reinforcement
- 03300 - Cast-In-Place Concrete
- 03320 - Concrete Sealers
- 03345 - Concrete Finishing

**DIVISION 4 -- MASONRY**

- 04100 - Mortar and Grout
- 04200 - Reinforced Unit Masonry System

**DIVISION 5 -- METALS**

- 05120 - Structural Steel
- 05410 - Metal Stud Framing
- 05500 - Metal Fabrications

**DIVISION 6 -- WOOD AND PLASTIC**

- 06410 - Custom Casework
- 06600 - Plastic Surfacing Materials

**DIVISION 7 -- THERMAL AND MOISTURE CONTROL**

- 07210 - Thermal Insulation
- 07500 - Membrane Roofing

- 07550 - Standing Seam Metal Roof
- 07600 - Flashing and Sheet Metal
- 07840 - Firestopping
- 07900 - Caulking and Sealants

DIVISION 8 -- DOORS AND WINDOWS

- 08100 - Metal Doors and Frames
- 08200 - Wood Doors and Frames
- 08500 - Aluminum Windows
- 08800 - Glazing

DIVISION 9 -- FINISHES

- 09200 - Lath and Plaster
- 09250 - Gypsum Board Systems
- 09300 - Tilework
- 09510 - Acoustical Ceiling Systems
- 09650 - Resilient Flooring
- 09680 - Carpet
- 09720 - Fabric Wall Panels
- 09900 - Painting Frazee

DIVISION 10 -- SPECIALTIES

- 10100 - Projection Screens
- 10120 - Tackboards and Chalkboards
- 10155 - Solid Polymer Toilet Partitions
- 10400 - Identifying Devices
- 10500 - Metal Lockers
- 10520 - Fire Protection Specialties
- 10800 - Toilet and Bath Accessories

DIVISION 11 -- EQUIPMENT

- 11027 - Knox Boxes
- 11450 - Residential Appliances

DIVISION 12 -- FURNISHINGS

- 12500 - Window Treatment

DIVISION 13 -- SPECIAL CONSTRUCTION

- 13850 - Security Systems

DIVISION 14 -- CONVEYING SYSTEMS

Not Used

DIVISION 15 -- MECHANICAL

- 15300 - Automatic Fire Protection System

15400 - Plumbing  
15600 - Heating, Ventilating and Air Conditioning

DIVISION 16 -- ELECTRICAL

16000 - Electrical Work  
16721 - Fire Alarm System

\*\*\* END OF SECTION \*\*\*

This page is intentionally left blank



**SECTION 00010**  
**PROJECT DIRECTORY**

**OWNER REPRESENTATIVE:**

**Riverside County Economic Development Agency**  
Contact: Sergio Peña, Facilities Project Manager III  
3133 Mission Inn Avenue  
Riverside, CA 92507  
951/955.2809 P  
951/955.4890 F  
[sepena@rivcoeda.org](mailto:sepena@rivcoeda.org)

**ARCHITECT:**

**Holt Architects, Inc.**  
Contact: Tim Holt, AIA, NCARB – Principal Architect  
70225 Highway 111, Suite D  
Rancho Mirage, CA 92270  
760/328.5280 P  
760/328.5281 F  
[tholt@holtarchitects.net](mailto:tholt@holtarchitects.net)

**STRUCTURAL ENGINEER:**

**JCE Structural Engineering Group**  
Contact: Juan Carlos Esquivel, MS, SE, LEED AP –  
President & CEO  
234 Colorado Boulevard, Suite 725  
Pasadena, CA 91101  
626/585.1822 P  
626/585.1824 F  
[jc@jcesegroup.com](mailto:jc@jcesegroup.com)

**MECHANICAL ENGINEER:**

**TMAD Taylor & Gaines**  
Contact: Chris Radtke, PE  
800 North Ferrari Lane, Suite 100  
Ontario, CA 91764  
909/477.6915 P  
[cradtke@ttgcorp.com](mailto:cradtke@ttgcorp.com)

**ELECTRICAL ENGINEER:**

**TMAD Taylor & Gaines**  
Contact: Nestor Ignacio, PE  
800 North Ferrari Lane, Suite 100  
Ontario, CA 91764  
909/477.6915 P  
[nignacio@ttgcorp.com](mailto:nignacio@ttgcorp.com)

## NOTICE INVITING BIDS

COUNTY OF RIVERSIDE, herein called Owner, invites sealed proposals for :

### **Palm Desert Library Renovation**

The Palm Desert Library renovation entails renovating 18,000 SF of space under the jurisdiction of the State of California, Division of the State Architect. **Engineer's estimate is currently \$1,800,000.00.**

The Contractor will be required, per Public Contracts Code, Section 3300 and for this contract, to have a State of California contractor's license classification **B** – General Building Contractor.

A **mandatory** pre-bid job walk inspection will be held on **May 24<sup>th</sup> 2011 at 9:00 a.m.**, meeting at 73300 Fred Waring Drive, Palm Desert, CA 92260. No bids will be accepted from bidders who have not attended the pre-bid job walk or who arrive late.

Proposals shall be delivered to the Clerk of the Board of Supervisors, on the 1st floor of the County Administrative Center located at 4080 Lemon Street, Riverside, CA 92501 no later than **2:00 pm on June 9<sup>th</sup> 2011** and will be promptly opened in public at said address.

Each Proposal shall be in accordance with the Plans, Specifications, and other Contract Documents and prepared by the Economic Development Agency, County of Riverside. A fee of approximately **(\$75.00)** will be charged for each set of Plans and Specifications furnished to Contractors. An additional fee will be charged for each set requested to be mailed to Contractors. Plans and Specifications may be obtained from:

Mission Reprographics, 2050 E. La Cadena Drive Suite L Riverside, CA 92507, 951-686-8828.

PlanIT Reprographics, 77738 Flora Road, Palm Desert, CA 92211, 760-345-2500.

Pursuant to the Labor Code, the Governing Board of the Owner has obtained from the Director of the Department of Industrial Relations, State of California, his determination of general prevailing rates of per diem wages applicable to the work, and for holiday and overtime work, including employer payments for health and welfare, pension, vacation, and similar purposes, as set forth on the schedule which is on file at the principal office of the Owner, and which will be made available to any interested person upon request.

The Contract General Conditions for this project will contain provisions allowing successful contractor to substitute securities for monies withheld by the County to ensure performance (Public Contract Code 22300).

A Performance Bond and Payment Bond shall be required for this Project.

For further information, contact **Sergio Pena at the Economic Development Agency, at 951-955-2809.**

## INSTRUCTIONS TO BIDDERS

- A. **FORM OF PROPOSAL:** The Proposal must be made on the attached Contractor's Proposal Form which must be filled out completely, dated and signed by the bidder or duly authorized agent in accordance with the directions on the Proposal Form. Each Proposal shall include a complete list of the Subcontractors proposed for every portion of the work, in accordance with Public Contract Code, Section 4100-4114, inclusive.
- B. **SUBMISSION OF THE PROPOSAL:** Signed copies of each Proposal shall be sealed in an envelope labeled with Title of Bid and Opening Time. Proposals shall be submitted at the place designated in the Notice Inviting Bids at or before the time specified in said notice. Before that time a proposal may be withdrawn, but only in person by the bidder or someone authorized by him in writing, and not by telephone or telegram.
- C. **DRAWINGS AND SPECIFICATIONS:** All drawings, herein enclosed, become a part of the Bid Documents. Sets may be provided if requested by bidders and deemed necessary and if there is sufficient time, for the sum of seventy five (75.00) per set plus an additional fee per set for mailing if required. Plans and Specifications may be obtained from:
- Mission Reprographics, 2050 E. La Cadena Drive Suite L Riverside, CA 92507, 951-686-8828.
- PlanIT Reprographics, 77738 Flora Road, Palm Desert, CA 92211, 760-345-2500.
- D. **INTERPRETATION OF THE DOCUMENTS:** Discrepancies in and omissions from the Plans, Specifications or other Contract Documents or questions as to their meaning shall, at once, be brought to the attention of the Owner. Any interpretation of the Documents will be made only by Addenda duly issued and a copy of such Addenda will be mailed or delivered to each person or firm receiving a set of such documents. The Owner will not be responsible for any other explanations or interpretations. Should anything in the scope of the work or any of the sections of the Specifications be of such nature as to be apt to cause disputes between the various trades involved, such information shall be promptly called to the attention of the Owner.
- E. **ADDENDA TO THE DOCUMENTS:** The Owner reserves the right to issue such Addenda to the documents as it may desire at any time prior to the time fixed for receiving Proposals. A copy of all such Addenda will be promptly mailed or delivered to each bidder. The number and date of each Addenda shall be listed on the Contractor's Proposal in the space provided.
- F. **OWNER'S RESERVATION OF RIGHTS:** The Owner reserves the right to reject any or all Proposals and to waive any informalities in a bid or in the bidding. No bidder may withdraw his bid for a period of sixty (60) days after the time set for the opening thereof.
- G. **BIDDER'S CHECK OR BOND:** Each Proposal must be accompanied by a certified or cashier's check or by a bid bond on the form supplied by the Owner, drawn in favor of the Owner in an amount not less than ten percent (10%) of the total Proposal. This check or bond shall be given as a guarantee that the bidder, if awarded the contract, will execute and deliver the Contract Documents and the required Payment and Performance Bonds and proof of insurance in accordance with his Proposal accepted by the Owner. In default of execution of the Contract upon award and/or delivery of said Payment and Performance Bonds, such Proposal bond or check shall be held subject to payment to the Owner of the difference in money between the amount of the bidder's Proposal and the amount for which the Owner may legally contract with another party to perform the said work, together with the costs to the Owner of redrafting, redrawing and publishing documents and papers shall, in addition, be held subject to all other actual damages suffered by the Owner, as set forth on the Contract Documents. Said check or bond will be returned upon the close of the period mentioned in Paragraph F above, and to the successful bidder upon execution of the Contract Documents. **NO BONDS WILL BE ACCEPTED UNLESS SUBMITTED ON THE FORM SUPPLIED BY OWNER.**
- H. **AWARD OF CONTRACT:** The Contract shall be awarded upon a Resolution or Minute Order to that effect duly adopted by the Governing Board of the Owner. Execution of the Contract Documents shall constitute a written memorial thereof.

I. **ADDITIONAL INFORMATION:** The Owner reserves the right to require of a bidder, information regarding financial responsibility or such other information as the Owner determines is necessary to ascertain whether a bid is in fact the lowest responsible bid submitted, All references to an Architect shall be deemed to refer to the Owner where no Architect has been employed by the Owner.

**PROMPT ACTION BY THE CONTRACTOR:** After the award of the Contract by the Governing Board and within four (4) days after the Agreement Forms are presented to the Contractor for signing, he shall return to the Owner the signed Agreements, along with all necessary Bonds and insurance.

K. **PRE-BID CONFERENCE:** There will be a mandatory pre-bid conference for this project that will be held at the site. No bids will be accepted from bidders who have not attended the pre-bid conference.

L. **BIDS:** Under the bidding items listed on the Contractor's Proposal, bidders shall state prices for each basis for bid given hereinafter.

1. Base Bid shall be the entire work complete in accordance with the contract documents, but not including work indicated or specified to be provided under any of the other bid items.
2. Please note that a separate cost quotation for Contractor's Course of Construction insurance is required per General Conditions Section 2.3.6.

The basis for award will be the qualified bidder with the lowest total of the Base Bid with Course of Construction Insurance and all alternates. Alternates may be awarded in any order after determination of the lowest responsible and responsive bidder.



**CONTRACTOR'S PROPOSAL**

TO THE GOVERNING BOARD OF THE COUNTY OF RIVERSIDE:

Date: \_\_\_\_\_

Bidder: \_\_\_\_\_

The undersigned, having carefully examined the proposed site and the Plans and Specifications, the Notice Inviting Bids, the Instructions to Bidders, the Agreement Form, the Bond Forms, the General Conditions for the Construction of the Palm Desert Library Renovation, hereby proposes and agrees to furnish all tools, equipment, services, apparatus, facilities, transportation, labor and materials necessary to complete the work in strict conformity with the Plans and Specifications, including all work specified in Addenda numbered and dated:

Addendum No. \_\_\_\_\_ Date \_\_\_\_\_

Addendum No. \_\_\_\_\_ Date \_\_\_\_\_

Addendum No. \_\_\_\_\_ Date \_\_\_\_\_

For the total Base Bid of \_\_\_\_\_ dollars

(\$ \_\_\_\_\_), including all applicable taxes, permits, licenses, **AND Course of Construction Insurance.**

(Add or Deduct state which)

Alternate 1 \_\_\_\_\_ (\$ \_\_\_\_\_) \_\_\_\_\_

Alternate 2 \_\_\_\_\_ (\$ \_\_\_\_\_) \_\_\_\_\_

Alternate 3 \_\_\_\_\_ (\$ \_\_\_\_\_) \_\_\_\_\_

Alternate 4 \_\_\_\_\_ (\$ \_\_\_\_\_) \_\_\_\_\_

And,  
Cost of Contractor's Course of Construction Insurance \_\_\_\_\_ dollars

(\$ \_\_\_\_\_) and deductible \$ \_\_\_\_\_.

Bids must be submitted on all items. Failure to bid on all items may result in the bid being rejected as non-responsive. The basis for award will be the qualified bidder with the lowest total of the Base Bid WITH COURSE OF CONSTRUCTION INSURANCE and all alternates. Alternates may be awarded in any order after determination of the lowest responsible and responsive bidder.







---

**AWARD OF CONTRACT**

The undersigned fully understands that a Contract is formed upon the acceptance of this Proposal by the Owner and the undersigned further agrees that upon request he will promptly execute and deliver to Owner a written memorial of the Contract together with the required Payment and Performance Bonds and proof of insurance.

**BID GUARANTEE**

The enclosed certified or cashier's check or bidder's bond on approved form, made payable to the Owner in the amount of ten percent of the total bid submitted herewith, is hereby given as a guarantee that the bidder will execute and deliver the above mentioned written memorial and required bonds and insurance if awarded the contract, and in the event that the undersigned fails or refuses to execute and deliver said documents, such check or bond is to be charged with the costs of the damages experienced by the Owner as a result of such failure or refusal, including but not limited to publication costs, the difference in money between the amount of the bid of the said principal and the amount for which obligee may legally contract with another party to perform the said work if such amount be in excess of the former, building lease or rental costs, transportation costs and additional salary costs that result from the delay due to the principal's default on the awarded contract. In no event, however, shall the Surety's liability exceed the penal sum hereof.

Name of Bidder: \_\_\_\_\_

Type of Organization: \_\_\_\_\_

Signed By: \_\_\_\_\_

Title of Signer: \_\_\_\_\_

Address of Bidder: \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Telephone No.: \_\_\_\_\_

Contractor's License No.: \_\_\_\_\_

Classification: \_\_\_\_\_ Expiration Date: \_\_\_\_\_

Affix Seal  
If  
Corporation

**LICENSURE STATEMENTS ARE MADE UNDER PENALTY OF PERJURY**

If bidder is a corporation, and signer is not President or Secretary, attach a certified copy of By-Laws or resolution authorizing execution. If bidder is a corporation, affix corporate seal. If signer is an agent, attach Power of Attorney. If bidder is not an individual, list names of other persons authorized to bind the organization.

**NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND  
SUBMITTED WITH BID**

State of California ) ss.  
County of Riverside )

\_\_\_\_\_, being first duly sworn, deposes and says:

That he or she is \_\_\_\_\_ of \_\_\_\_\_  
the party making the foregoing bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that 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, or to secure any advantage against the public body awarding the contract of anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that 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, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

\_\_\_\_\_  
Signature

Subscribed and sworn to before me this \_\_\_\_\_ day of \_\_\_\_\_, 2011.

\_\_\_\_\_  
Signature of officer administering oath

**Bid Bond**

KNOWN TO ALL MEN BY THESE PRESENTS, that we, the undersigned \_\_\_\_\_, as Principal; and \_\_\_\_\_, as Surety, are hereby held and firmly bound unto the County of Riverside, hereinafter called the "Owner", in the sum of \_\_\_\_\_ Dollars (\$ \_\_\_\_\_) for the payment of such sum, well and truly to be made, do hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

WHEREAS, the said Principal is herewith submitting its Proposal for the \_\_\_\_\_

THE CONDITION OF THE ABOVE OBLIGATION IS SUCH, that if the aforesaid Principal shall be awarded the Contract upon said Proposal and shall, within the required number of days after the notice of such award, execute a written memorial of the awarded Contract and submit the required Labor and Material Payment and faithful Performance Bond and proof of insurance, then this obligation shall be null and void; and in the event that the Principal fails and/or refuses to execute and deliver said documents this Bond will be charged with the costs of the damages experienced by the Owner as a result of such refusal, including but not limited to, publication cost, the difference in money between the amount of the bid of the said Principal and the amount for which the obligee may legally contract with another party to perform the said work if such amount be in excess of the former; building lease or rental costs, transportation cost, and additional salary costs that result from the delay due to the Principal's default on the awarded Contract. In no event however, shall the Surety's liability exceed the penal sum hereof.

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

IN WITNESS WHEREOF, the above bounded parties have executed this instrument under their separate seals this \_\_\_\_\_ day of \_\_\_\_\_, 2011, the name and corporate seal of each corporate party being hereto affixed and those present duly signed by its undersigned representative, pursuant to authority of its governing body.

\_\_\_\_\_  
(Firm Name - Principal)

\_\_\_\_\_  
(Business Address)

By \_\_\_\_\_  
(Original Signature)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Corporation Name - Surety)

\_\_\_\_\_  
(Business Address)

By \_\_\_\_\_  
(Original Signature)

Affix Seal  
If  
Corporation

Affix  
Corporate  
Seal

**AGREEMENT FORM**

THIS AGREEMENT, entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2011, by and between \_\_\_\_\_, hereinafter called the "Contractor", and the County of Riverside hereinafter called the "Owner".

**WITNESSETH:** That the parties hereto have mutually covenanted and agreed as follows:

**CONTRACT:** The Complete Contract includes all of the Contract Documents, to wit: The Notice Inviting Bids, the Instructions to Bidders, the Contractor's Proposal, Wage Schedule, Payment and Performance Bonds, the Plans and Specifications plus any Addenda thereto, the General Conditions, the Supplementary General Conditions, if applicable and this Agreement. All Contract Documents are intended to cooperate and be complimentary so that any work called for in one and not mentioned in the other, or vice versa, is to be executed the same as if mentioned in all Contract Documents.

**STATEMENT OF WORK:** The Contractor hereby agrees to furnish all tools, equipment, services, apparatus, facilities, transportation, labor and materials for the **Palm Desert Library Renovation FM0811000005**. In strict accordance with the Plans and Specifications dated April 2011 prepared by Webb Engineering & County of Riverside hereinafter called the "Architect", including Addenda thereto as listed in the Contractor's Proposal, all of which are made a part hereof.

**TIME FOR COMPLETION:** The work shall be commenced on a date to be specified in a written order of the Architect and shall be completed within one hundred twenty (120) calendar days from and after said date. It is expressly agreed that except for extensions of time duly granted in the manner and for the reasons specified in the General Conditions, time shall be of the essence.

**COMPENSATION TO BE PAID TO CONTRACTOR:** The Owner agrees to pay and the Contractor agrees to accept in full consideration for the performance of the Contract, subject to additions and deductions as provided in the General Conditions, the sum of \_\_\_\_\_ dollars (\$ \_\_\_\_\_) being the total of the base bid plus the following addenda: \_\_\_\_, \_\_\_\_, \_\_\_\_\_. The sum is to be paid according to the schedule as provided in the General Conditions.

Pursuant to Labor Code, Section 1861, the Contractor gives the following certification: I am aware of the provisions of Section 3700 of the Labor Code which require every employer to be insured against liability for Worker's Compensation or to undertake self-insurance in accordance with the provisions of that code, and I will comply with such provisions before commencing the performance of the work of this Contract.

IN WITNESS WHEREOF, the parties hereto on the day and year first above written have executed this agreement in four (4) counterparts.

Type of Contractor's organization: \_\_\_\_\_  
If other than individual or corporation, list names of all members who have authority to bind firm.

\_\_\_\_\_  
Firm Name: \_\_\_\_\_  
Address: \_\_\_\_\_  
Contractor's License No.: \_\_\_\_\_

IF OTHER THAN CORPORATION EXECUTE HERE

Signature: \_\_\_\_\_  
Title: \_\_\_\_\_

Affix Seal  
If  
Corporation

IF CORPORATION, FILL OUT FOLLOWING AND EXECUTE

Name of President of Corporation: \_\_\_\_\_  
Name of Secretary of Corporation: \_\_\_\_\_  
Corporation is organized under the laws of State of \_\_\_\_\_  
Signature: \_\_\_\_\_  
Title: \_\_\_\_\_

Owner: COUNTY OF RIVERSIDE  
Signature: \_\_\_\_\_  
Title: Chairman - Board of Supervisors

Attest: Clerk - Board of Supervisors  
By: \_\_\_\_\_  
Title: \_\_\_\_\_

**PAYMENT BOND**

(Public Work - Civil Code Section 3247 et seq.)

The makers of this Bond are \_\_\_\_\_ as Principal and Original Contractor and \_\_\_\_\_, a corporation, authorized to issue Surety Bonds in California, as Surety, and this Bond is issued in conjunction with that certain public works contract dated \_\_\_\_\_, 2011 between Principal and County of Riverside, a public entity, as owner, for \_\_\_\_\_ dollars (\$ \_\_\_\_\_) the total amount payable. THE AMOUNT OF THIS BOND IS 100% OF SAID SUM. Said contract is for public work of: \_\_\_\_\_

The beneficiaries of this Bond are as is stated in 3248 of the Civil Code and the requirements and conditions of this Bond are as is set forth in Sections 3248, 3249, 3250 and 3252 of said Code. Without notice, Surety consents to extension of time for performance, change in requirements, amount of compensation, or prepayment under said Contract.

Signed and Sealed this \_\_\_\_\_ Day of \_\_\_\_\_ 2011.

\_\_\_\_\_  
(Firm Name - Principal)

\_\_\_\_\_  
(Business Address)

By: \_\_\_\_\_  
(Signature - Attach Notary's Acknowledgment)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Corporation Name - Surety)

\_\_\_\_\_  
(Business Address)

By: \_\_\_\_\_  
(Signature - Attached Notary's Acknowledgment )

ATTORNEY-IN-FACT  
(Title-Attach Power of Attorney)

Affix Seal  
if  
Corporation

Affix  
Corporate  
Seal

**PERFORMANCE BOND**

The makers of this Bond, \_\_\_\_\_, as Principal, and \_\_\_\_\_ as Surety, are held and firmly bound unto County of Riverside, hereinafter called the Owner, in the sum of \_\_\_\_\_ Dollars (\$\_\_\_\_\_) for the payment of which sum well and truly to be made, we bind ourselves, our heirs, executors, administrators, and successors, jointly and severally, firmly by these presents.

The condition of this obligation is such, that whereas the Principal entered into a certain contract, hereto attached, with the Owner, dated \_\_\_\_\_, 2011 for \_\_\_\_\_

Now therefore, if the Principal shall well and truly perform and fulfill all the undertakings covenants, terms, conditions and agreements of said Contract during the original term of said Contract and any extension thereof that may be granted by the Owner, with or without notice to the Surety, and during the file of any guarantee required under the Contract, and shall also well and truly perform and fulfill all the undertakings, covenants, terms, conditions, and agreements of any and all duly authorized modifications of said Contract that may thereafter be made, then this obligation to be void, otherwise to remain in full force and virtue. Without notice, Surety consents to extension of time for performance, change in requirements, change in compensation or prepayment under said Contract.

Signed and Sealed this \_\_\_\_\_ Day of \_\_\_\_\_, 2011.

\_\_\_\_\_  
(Firm Name - Principal)

\_\_\_\_\_  
(Business Address)

By: \_\_\_\_\_  
(Signature - Attach Notary's Acknowledgment)

\_\_\_\_\_  
(Title)

\_\_\_\_\_  
(Corporation Name - Surety)

\_\_\_\_\_  
(Business Address)

By: \_\_\_\_\_  
(Signature - Attach Notary's Acknowledgment)

ATTORNEY-IN-FACT  
(Title-Attach Power of Attorney)

Affix Seal  
if  
Corporation

Affix  
Corporate  
Seal

**CONTRACTOR'S CERTIFICATE  
REGARDING WORKERS' COMPENSATION**

Labor Code Section 3700

Every employer, except the State and all political subdivisions or institutions thereof, shall secure the payment of compensation in one or more of the following ways:

- (a) By being insured against liability to pay compensation in one or more insurers duly authorized to write compensation insurance in this State.
  
- (b) By securing from the Director of Industrial Relations, a Certificate of Consent to Self-Insure, which may be given upon furnishing proof satisfactory to the Director of Industrial Relations of ability to self-insure and to pay any compensation that may become due to his employees

I am aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for Workers' Compensation or to undertake self-insurance in accordance with the provisions of that Code, and I will comply with such provisions before commencing the performance of this Contract.

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Principal

\_\_\_\_\_  
Title

(In accordance with Article 5 [commencing at Section 1860], Chapter, Part 7, Division 2 of the Labor Code, the above Certificate must be signed and filed with the Owner prior to performing any work under this Contract.)

**GENERAL CONDITIONS**  
**TABLE OF CONTENTS**

<b>ARTICLE 1</b>	<b><u>GENERAL PROVISIONS</u></b> .....	- 1 -
	1.1 - Definitions.....	- 1 -
	1.2 - Authorities and Limitations .....	- 3 -
	1.3 - Legal Requirements .....	- 3 -
	1.4 - Standard References .....	- 4 -
	1.5 - Permits, Licenses, Fees & Taxes .....	- 4 -
	1.6 - Separate Contracts .....	- 4 -
	1.7 - County's Authorized Representative, Inspector(s) & Architect.....	- 5 -
<b>ARTICLE 2</b>	<b><u>BONDS &amp; INSURANCE</u></b> .....	- 6 -
	2.1 - Bids of \$25,000 or Less.....	- 6 -
	2.2 - Performance and Payment Bonds.....	- 6 -
	2.3 - Insurance.....	- 6 -
	2.4 - Indemnification.....	- 9 -
<b>ARTICLE 3</b>	<b><u>SITE CONDITIONS</u></b> .....	- 9 -
	3.1 - Differing Site Conditions.....	- 10 -
	3.2 - Site Investigation and Conditions Affecting the Work .....	- 10 -
	3.3 - Dimensions and Measurements .....	- 10 -
<b>ARTICLE 4</b>	<b><u>SPECIFICATIONS AND DRAWINGS</u></b> .....	- 10 -
	4.1 - General Provisions.....	- 11 -
	4.2 - Summary of the Order of Precedence .....	- 11 -
	4.3 - Clarifications/Request for Information and Additional Instructions.....	- 12 -
<b>ARTICLE 5</b>	<b><u>SHOP DRAWINGS AND SUBMITTALS</u></b> .....	- 13 -
	5.1 - Shop Drawings, Product Data, Coordination Drawings and Schedules .....	- 13 -
	5.2 - Samples .....	- 14 -
	5.3 - Substitutions.....	- 15 -
<b>ARTICLE 6</b>	<b><u>SCHEDULES</u></b> .....	- 15 -
	6.1 - Construction Schedule .....	- 15 -
<b>ARTICLE 7</b>	<b><u>TIME, LIQUIDATED DAMAGES AND EXTENSIONS</u></b> .....	- 16 -
	7.1 - Time of Work .....	- 16 -
	7.2 - Liquidated Damages .....	- 16 -
	7.3 - Unavoidable Delays .....	- 16 -
	7.4 - Request for Time Extension .....	- 17 -
<b>ARTICLE 8</b>	<b><u>PERFORMANCE</u></b> .....	- 18 -
	8.1 - Supervision & Construction Procedures .....	- 18 -
	8.2 - Supervision .....	- 18 -
	8.3 - Conduct of Work .....	- 18 -
	8.4 - Protection of Work & Property .....	- 18 -
	8.5 - Contractor's Responsibility For Work.....	- 19 -
	8.6 - Utilities.....	- 19 -



	8.7 - Working Hours .....	- 20 -
	8.8 - Material & Workmanship.....	- 20 -
	8.9 - Layout of Work.....	- 21 -
	8.10 - Use of Premises .....	- 21 -
	8.11 - Operations & Storage .....	- 21 -
	8.12 - Heat/Power/Light.....	- 21 -
	8.13 - Cleaning Up .....	- 21 -
<b>ARTICLE 9</b>	<b><u>SAFETY &amp; HEALTH</u></b> .....	- 22 -
	9.1 - Accident Prevention.....	- 22 -
	9.2 - Sanitary Facilities.....	- 22 -
	9.3 - Responsibility for Compliance With Cal- OSHA .....	- 22 -
	9.4 - Toxic and Hazardous Materials and Waste.....	- 23 -
<b>ARTICLE 10</b>	<b><u>COUNTY-FURNISHED PROPERTY</u></b> .....	- 23 -
	10.1 - County-Furnished Property .....	- 23 -
<b>ARTICLE 11</b>	<b><u>BENEFICIAL OCCUPANCY</u></b> .....	- 24 -
	11.1 - Beneficial Occupancy.....	- 24 -
<b>ARTICLE 12</b>	<b><u>INSPECTION AND TESTING</u></b> .....	- 24 -
	12.1 - Inspection and Testing.....	- 24 -
	12.2 - Inspection by Other Jurisdictions .....	- 25 -
	12.3 - Final Inspection and Tests .....	- 26 -
<b>ARTICLE 13</b>	<b><u>ACCEPTANCE</u></b> .....	- 26 -
	13.1 - Acceptance of the Work .....	- 26 -
<b>ARTICLE 14</b>	<b><u>WARRANTY AND GUARANTEES</u></b> .....	- 26 -
	14.1 - Contractor's Warranty and Guarantee .....	- 26 -
<b>ARTICLE 15</b>	<b><u>ENVIRONMENTAL PROTECTION</u></b> .....	- 27 -
	15.1 - Dust Control.....	- 27 -
	15.2 - Excessive Noise .....	- 27 -
	15.3 - Pollution Control, Cleaning .....	- 28 -
<b>ARTICLE 16</b>	<b><u>EMPLOYMENT PRACTICES</u></b> .....	- 28 -
	16.1 - Qualifications for Employment and Apprenticeship Standards.....	- 28 -
	16.2 - Wages & Records .....	- 28 -
	16.3 - Notice of Labor Disputes.....	- 29 -
	16.4 - Nondiscrimination .....	- 30 -
<b>ARTICLE 17</b>	<b><u>SUBCONTRACTING</u></b> .....	- 31 -
	17.1 - Subcontractors .....	- 31 -
	17.2 - Relations of Contractor and Subcontractor .....	- 31 -
	17.3 - Subcontracts.....	- 32 -
<b>ARTICLE 18</b>	<b><u>TAXES</u></b> .....	- 32 -
	18.1 - Sales and Payroll Taxes.....	- 32 -

<b>ARTICLE 19</b>	<b><u>CHANGES</u></b> .....	- 32 -
	19.1 - Change Order Work .....	- 32 -
	19.2 - Change Orders and Labor Rates Guidelines .....	- 35 -
	19.3 - Audit.....	- 36 -
<b>ARTICLE 20</b>	<b><u>PAYMENT</u></b> .....	- 37 -
	20.1 - Payment.....	- 37 -
	20.2 - Final Payment .....	- 38 -
<b>ARTICLE 21</b>	<b><u>SUSPENSION OF WORK, TERMINATION</u></b> .....	- 39 -
	21.1 - Non-Compliance With Contract Requirements .....	- 39 -
	21.2 - Termination.....	- 40 -
<b>ARTICLE 22</b>	<b><u>DISPUTES/CLAIMS</u></b> .....	- 43 -
	22.1 - Claims .....	- 43 -
	22.2 - Claim Format/Requirements.....	- 44 -
	22.3 - Notice of Third Party Claims.....	- 44 -

## GENERAL CONDITIONS OF THE CONTRACT

### ARTICLE 1    GENERAL PROVISIONS

#### 1.1    **DEFINITIONS**

**THE CONTRACT DOCUMENTS** - The Contract Documents consist of the Contract, the Performance Bond and Payment Bond and any other bond required by the Contract, the drawings, the specifications, addenda issued prior to execution of the Contract, and all modifications thereto.

**THE CONTRACT** - The Contract Documents form the Contract. The Contract represents the entire and integrated agreement between the parties hereto, and supersedes all prior negotiation, representations, or agreements, either written or oral, including the bidding documents.

**ACT OF GOD** - An Act of God is an earthquake of magnitude 4.5 or greater on the Richter scale, flood, tornado, or other cataclysmic phenomenon of nature, or rain, snowstorm, windstorm, high water, or other natural phenomenon in excess of the normal as established by National Oceanic and Atmospheric Administration weather data.

**ACCEPTANCE** - Acceptance is when the County determines all of the Contract requirements have been completed. Execution of the Notice of Completion will signify acceptance. A copy of the Notice of Completion will be sent to the Contractor after execution by the County. Upon receipt of the Notice of Completion, the Contractor will be relieved of the duty of protecting the work, and the County will initiate final settlement and payment.

**ARCHITECT** - The use of the term Architect shall mean the individual, partnership, corporation, association or joint venture contracted by the County for the design of this Work, as designated on the title sheet of these specifications and Contract Documents.

**BENEFICIAL OCCUPANCY** - The right of the County to occupy all or any portion of the project prior to final Acceptance of the Work. Such occupancy does not constitute acceptance or completion by the Contractor of the Work or any portion thereof, nor will it relieve the Contractor of the responsibility for correcting defective work or materials found at any time before Acceptance of the Work.

**COUNTY** - The term County when used herein shall mean the Board of Supervisors of the County of Riverside, a political subdivision of the State of California.

**CHANGE ORDER** - A Change Order is the document issued by the County authorizing any change or adjustment to the Contract Documents in accordance with Article 19 of this Contract.

**CONTRACT DRAWINGS** - "Contract drawings" or "drawings" means and includes (a) all drawings which have been prepared on behalf of the County and are included in the Contract Documents and all clarification drawings issued by notice to the bidders thereto; (b) all drawings submitted pursuant to the terms of the Contract by the Contractor to the County during the progress of the Work, which are accepted by the County.

**CONTRACTOR'S AGENT** - The representative of the Contractor, approved by the County, who shall be present at the Work and be authorized to receive and act upon instructions from the County and to execute and direct the Work on behalf of the Contractor.

**CONTRACTOR** - When used herein, Contractor means the prime or principal Contractor licensed to perform work in the State of California, including all joint ventures. References to subcontractor or others are only for convenience and all such references shall be considered to refer to the Contractor. The prime or principal Contractor shall be responsible for all subcontractors, and all subcontractors shall require their subcontractors to comply with the relevant provisions of the prime or principal contract.

**CRITICAL PATH METHOD(CPM)** - "Critical Path Method" is a schedule technique.

**DAY** - The use of "day" herein means calendar day and shall include every day including Saturdays, Sundays, and legal holidays.

**DIRECTOR** - The use of "Director" shall mean the Assistant County Executive Officer/EDA of the County or his designated representative.

**INSTALL** - When used herein, "install" shall mean the complete installation, in place, of any item, equipment or material.

**MATERIAL** - Material shall be construed to include machinery, equipment, manufactured articles, or construction such as form work, fasteners, etc., and any other classes of material to be furnished in connection with the Contract. All materials shall be new.

**NOTICE OF COMPLETION** - The Notice of Completion ("NOC") shall be issued at that point in the Contract when the Contractor has completed all Work required in the Contract Documents. The time for issuance shall be determined by the County through a final inspection. The NOC shall be issued by the Board of Supervisors.

**NOTICE TO PROCEED** - The Notice to Proceed is the written notification from the County giving the Contractor notice to commence with the Work. The Notice to Proceed will specify the start date for the Work and the completion date.

**REQUEST FOR INFORMATION** - (RFI) The form and procedure established for communication between the Contractor and the County to clarify or interpret the Contract Documents.

**REQUEST FOR QUOTATION** - (RFQ) A document consisting of supplemental details, instruction, or information issued by the Architect, through the County, for the purpose of obtaining price quotations for possible changes in the Work.

**SHALL** - When used herein, "shall" means anything, which is mandatory to be performed by the Contractor.

**SPECIFICATIONS** - The term "Specifications" means that portion of the Contract Documents consisting of the written requirements for materials, equipment, construction systems, standards and workmanship for the Work.

**SUBCONTRACTOR** - The term "Subcontractor" means a person or firm that has a contract with Contractor or with another subcontractor to perform a portion of the Work. Unless otherwise specifically provided, the term Subcontractor includes Subcontractors of any tier, suppliers, manufacturers, and distributors. The term Subcontractor is referred to throughout the Contract Documents as if singular in number.

**WORK** - The term "Work" comprises the services and materials required by the Contract Documents, as may be amended, and includes all labor necessary to produce the construction required by the Contract Documents, and all materials and equipment incorporated or to be incorporated in such construction.

## **1.2 AUTHORITIES AND LIMITATIONS**

**1.2.1** The Board of Supervisors alone have the power to bind the County and to exercise the rights, responsibilities, authorities, and functions vested therein by the Contract Documents, except that they shall have the right to designate authorized representatives to act for them.

**1.2.2** Neither the Contract, nor any part thereof, nor moneys due or to become due there under may be assigned by the Contractor without the prior written approval of the County; with the exception of the assignments to County which may be required under the terms of this Contract.

## **1.3 LEGAL REQUIREMENTS**

**1.3.1** Contractor shall keep informed of, and comply with, all federal, state and county laws, ordinances, rules, and regulations applicable to the Work or to those engaged or employed in the Work of this Contract, especially (but not limited to) those laws relating to hours of employment, prevailing wages, payment of wages, sanitary and safety conditions for workers, workers' compensation insurance, type and kind of materials that can be used, non-discrimination in employment and affirmative action programs. Failure to identify a specific provision in these Contract Documents shall not excuse the Contractor from complying with such applicable statutory requirements.

**1.3.2** If conflict arises between provisions of the Contract Documents and any such laws, rules, or regulations, the Contractor shall notify the County at once in writing. If, before receiving clarification, Contractor performs any portion of the Work affected by such apparent conflict, such performance shall be at Contractor's own risk. Contractor shall not be entitled to any additional compensation or time by reason of the conflict or its later correction.

**1.3.3** All work and materials shall be in full accordance with the latest applicable (or otherwise noted) codes, rules, and regulations including, but not limited to, the following:

- .Uniform Building Code
- .Uniform Plumbing Code
- .Uniform Mechanical Code
- .Uniform Fire Code
- .State Fire Marshal
- .State Industrial Accident Commission's Safety Orders
- .Rules of Local Utilities

**1.3.4** Nothing in the specifications is to be construed to permit work not conforming to the above, and expense incurred complying with the above shall be borne by the Contractor. Whenever the specifications and working details require higher standards than those required by the ordinances, codes and statutes, the specifications and

working details shall take priority over the ordinances, codes and statutes.

- 1.3.5** In submitting a bid on this public works projects, or any subcontractor agreeing to supply goods, services, or materials, and entering a contract pursuant thereto, the contractor and/or subcontractor do offer and agree to assign the County all rights, title, and interest in and to all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Section 15) or under the Cartwright Act (Chapter 2 (commencing with Section 16700) of Part 2 of Division 7 of the Business and Professions Code), arising from purchases of goods, services, or materials pursuant to the public works contract or the subcontract. This assignment shall be made and become effective at the time the awarding body tenders final acknowledgement by the parties.

#### **1.4 STANDARD REFERENCES**

- 1.4.1** All documents and publications (such as, but not limited to, manuals, handbooks, codes, standards, and specifications) which are cited in this Contract for the purpose of establishing technical (non-administrative) requirements applicable to equipment, materials, or workmanship under this Contract, shall be deemed to be incorporated herein as though fully set forth.
- 1.4.2** Whenever reference is made to any particular document or publication, the Contractor shall comply with the requirements set out in the edition specified in this Contract, or if not specified, the latest edition or revision thereof, in effect on the date of the solicitation of bid on this project, except as modified by, as otherwise provided in, or as limited to type, class, or grade, in the specifications of this Contract.

#### **1.5 PERMITS, LICENSES, FEES & TAXES**

##### **1.5.1 COUNTY'S RESPONSIBILITIES**

- a. The County will apply for all plan checks and will apply for and obtain the Building Permit(s), the Grading Permit and Construction Permits required by the County of Riverside, paying all fees in connection therewith.
- b. The County will furnish, at no expense to the Contractor, all on-site inspection of the Work and will arrange and pay for off-site inspection only as noted in the Contract Documents.

##### **1.5.2 CONTRACTOR'S RESPONSIBILITIES**

- a. The Contractor shall obtain and pay for all other permits and licenses required for the Work, including excavation permit and for plumbing, mechanical and electrical work and for operations in or over public streets or right of way under jurisdiction of public agencies other than the County.
- b. Exclusive of off-site inspection specified herein to be the County's responsibility, the Contractor shall arrange and pay for all off-site inspection of the Work, including certification, required by the specifications, drawings, or by governing authorities.
- c. Before Acceptance of the project by the County, the Contractor shall submit all licenses, permits, and certificates of inspection to the County.

## **1.6 SEPARATE CONTRACTS**

- 1.6.1** The County reserves the right to perform work related to this project with its own forces, and to award separate contracts in connection with other portions of the project or other work on the site. The Contractor shall cooperate with others in the prosecution of all work and shall not interfere with material, appliances or workmen of the County or any other contractor engaged by the County at the site of the Work. In case of disagreement regarding such use, the matter shall be referred to the County whose decision relative to said use shall govern.
- 1.6.2** The Contractor shall afford the County and separate contractors reasonable opportunity for the introduction and storage of their materials and equipment and the execution of their work, and shall properly connect and coordinate Contractor's Work with theirs.
- 1.6.3** If 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 inspect and promptly report to the County any discrepancies or defects in such other work that render it unsuitable for such proper execution and results. Failure of the Contractor to so inspect and report shall constitute an acceptance of the County's or the separate contractor's work as fit and proper to receive the Work, except as to defects which may develop in the other separate contractor's work after the execution of the Contractor's Work.
- 1.6.4** Should the Contractor cause damage to the work or property of any separate contractor on the Project, the Contractor shall, upon due notice, settle with such other contractor by agreement, if both will so settle. If such separate contractor sues the County because of any damage alleged to have been so sustained, the Contractor agrees to indemnify and defend the County in such proceedings with the County retaining the right to select and hire independent counsel for the County paid by the Contractor.
- 1.6.5** Any cost caused by defective or ill-timed work shall be borne by the party responsible therefore.

## **1.7 COUNTY'S AUTHORIZED REPRESENTATIVE, INSPECTOR(S), & ARCHITECT**

### **1.7.1 AUTHORIZED REPRESENTATIVE**

The County shall designate a representative during the Work, who shall have the right to be present at the job site during construction and shall supervise any additional representatives appointed by the County.

### **1.7.2 INSPECTOR(S)**

The Inspector(s) shall have the right to observe the installation of all materials and equipment to be incorporated into the Work and the placing of such material and equipment to determine in general if the Work is proceeding in accordance with the Contract Documents. The Inspector(s) is not authorized to make changes in the Contract Documents. On the basis of his observations, he shall keep the County informed as to the progress of the Work. The Inspector shall not be responsible for means, methods, techniques, sequences, or procedures of construction nor for safety precautions and programs in connection with the Work. Nor will the inspector be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents.

### 1.7.3 ARCHITECT

- a. The County has retained an Architect for this project. The Architect will advise and consult with the County, and the County will issue instructions to the Contractor. The Architect will be requested to interpret the requirements of the Contract. When requested by the County, the Architect will, within a reasonable time, render such interpretations as he may deem necessary for the proper execution of the Work.
- b. The Architect will make periodic visits to the job site to familiarize himself generally with the progress and quality of the Work and to determine in general whether the work is proceeding in accordance with the Contract Documents. Based on such observations he will recommend approval of applications for progress payments made by Contractor. The Architect shall not be responsible for means, methods, techniques, sequences, or procedures of construction nor for safety precautions and programs in connection with the Work. Nor will the Architect be responsible for the Contractor's failure to carry out the Work in accordance with the Contract Documents.

## ARTICLE 2 BONDS AND INSURANCE

### 2.1 BIDS OF \$25,000 OR LESS

2.1.1 If the total amount bid on the Work is \$25,000 or less, the payment bond and performance bond are not required, provided that one payment of all compensation shall be made following Acceptance of all work.

### 2.2 BONDS

#### 2.2.1 GENERAL REQUIREMENTS

a. Before commencing any Work under this Contract, the Contractor shall file four of each bond with the County. These bonds shall be in the amounts and for the purposes specified below. They shall be surety bonds issued by:

- (1) Either a California Admitted Surety OR a current Treasury Listed Surety (Federal Register).

And

- (2) Either a current A.M. Best A VIII rated Surety OR an admitted surety insurer which complies with the provisions of the Code of Civil Procedure, § 995.660.

b. Should any surety or sureties upon said bonds or any of them become insufficient, Contractor shall renew said bond or bonds with good and sufficient sureties within ten (10) calendar days after receiving notice from the County that the surety or sureties are insufficient. Cost of bonds shall be included in the bid price.

#### 2.2.2 PERFORMANCE BOND

The successful bidder shall deliver to the County an executed Performance Bond on the attached form in an amount equal to 100% of the accepted bid as security for the faithful performance of the Contract.

#### 2.2.3 PAYMENT BOND



The successful bidder shall deliver to the County an executed Payment Bond on the attached form in an amount equal to 100% of the accepted bid as security for the payment of all persons performing labor and furnishing materials in connection with the Work.

## **2.3 INSURANCE**

### **2.3.1 GENERAL REQUIREMENTS**

Before commencing this Work under the Contract, and without limiting or diminishing CONTRACTOR'S obligation to indemnify and hold the COUNTY harmless, the Contractor shall procure and maintain, or cause to be maintained at its sole cost and expense, the following insurance coverages during the term of this Contract.

### **2.3.2 WORKERS' COMPENSATION INSURANCE**

Contractor shall secure Workers' Compensation Insurance (Coverage A) as prescribed by the laws of the State of California. Policy shall include Employers' Liability (Coverage B) including Occupational Disease with limits not less than \$1,000,000 per person per accident. Policy shall be endorsed, if applicable, to provide a Borrowed Servant/Alternate Employer Endorsement, and contain a Waiver of Subrogation in favor of the County of *Riverside* Pursuant to Section 3700 of the Labor Code of the State of California, Contractor shall file with the County before commencing the Work the following signed certification:

"I am aware of the provisions of Section 3700 of the Labor Code, which requires every employer to be insured against liability for workers' compensation or to undertake self-insurance in accordance with the provisions of that Code, and I shall comply with such provisions before commencing the performance of the Work of this Contract."

### **2.3.3 COMMERCIAL GENERAL LIABILITY:**

Commercial General Liability insurance coverage, including but not limited to, premises liability, contractual liability, products/completed operations if applicable, personal and advertising injury – which may arise from or out of CONTRACTOR'S operations, use, and management of the premises, or the performance of its obligations hereunder. Policy shall name the County of Riverside—it's Director's, Officers, special Districts, Board of Supervisors, employees, agents or representatives as Additional Insured, and contain a Waiver of Subrogation in favor of the County of Riverside. Policy limits shall not be less than \$1,000,000 per occurrence combined single limits. If such insurance contains a general aggregate limit, it shall apply separately to this agreement or be no less than two (2) times the occurrence limit. Policy shall also contain coverage for \$5,000 Medical Payments coverage per accident, per person, and Fire Legal Liability in an amount not less than \$50,000.

### **2.3.4 VEHICLE LIABILITY:**

If CONTRACTOR'S vehicles or licensed mobile equipment are used on County property, or used in any manner on behalf of the County, CONTRACTOR shall maintain auto liability insurance for all owned, non-owned and hired automobiles in an amount not less than \$1,000,000 per occurrence combined single limit, \$2,000,000 in the aggregate. Policy shall name the County of Riverside, its Director's Officers, Special Districts, Board of Supervisors, employees, agents, or representatives as Additional Insured, and provide a Waiver of Subrogation in favor of the County of Riverside.

### **2.3.5 PROPERTY (PHYSICAL DAMAGE):**

All-Risk property insurance coverage for the full replacement value of all CONTRACTOR'S equipment, improvements/alterations, temporary structures, and systems (Care, Custody, and Control of CONTRACTOR) used on COUNTY property, or used in any way connected with the accomplishment of the Work performed in this contract.

### **2.3.6 COURSE OF CONSTRUCTION INSURANCE**

CONTRACTOR shall provide All Risk Builder's Risk (Course of Construction) insurance, including earthquake and flood if in an earthquake or flood zone (required on financed or bond financing arrangements), covering the COUNTY, the CONTRACTOR and every subcontractor of every tier for the entire project including property to be used in the construction of the project while such property is at off site storage locations or while in transit. Policy shall include coverage for collapse, faulty workmanship, debris removal, expediting expense, Fire Department Service charges, valuable papers and records, trees, grass, shrubbery and plants. If scaffolding, falsework and temporary buildings are insured separately by the CONTRACTOR or others, evidence of such separate coverage shall be provided to COUNTY prior to the start of the work. Policy shall be written on a completed value form. Policy shall also provide coverage for temporary structures (onsite offices, etc.), fixtures, machinery and equipment being installed as part of the construction project. (The Base Bid including course of construction insurance shall be used for determination of lowest bid, unless otherwise stated in the bid form.)

CONTRACTOR shall provide a bid price with Course of Construction insurance as outlined herein, and shall also separately provide the cost of the Course of Construction insurance and deductible; and shall declare all terms, conditions, coverages and limits upon request of COUNTY. COUNTY RETAINS THE RIGHT TO CHOOSE TO USE ITS OWN COURSE OF CONSTRUCTION PROGRAM. If the COUNTY program is chosen, CONTRACTOR shall assume the cost of any and all applicable policy deductibles (currently \$50,000 per occurrence), and shall insure its own machinery, equipment, tools, etc., from any loss of any nature whatever. If COUNTY elects the CONTRACTOR's All Risk Builder's Risk Program, CONTRACTOR shall be responsible for any and all policy deductibles.

### **2.3.7 GENERAL INSURANCE PROVISION – ALL LINES:**

- a. Any insurance carrier providing insurance coverage hereunder shall be admitted to the State of California unless waived, in writing, by the County Risk Manager. Carrier(s) shall have an A.M. BEST rating of not less than an A:VIII. Insurance deductibles or self-insured retentions must be declared by the carrier(s), and such deductibles and retentions shall have the prior written consent from the County Risk Manager. At the election of the Risk Manager, carriers shall provide written notification, and shall either 1) reduce or eliminate such deductibles or self-insured retentions, or 2) procure a bond which guarantees payment of losses and related investigations, claims administration, and defense costs and expenses. If no written notice is received from the County Risk Manager within ten (10) days of the acceptance of agreement, then such deductibles or self-insured retentions shall be deemed acceptable.
- b. Cause its insurance carrier(s) to furnish the County of Riverside with either 1) a properly executed original Certificates(s) of Insurance and certified original copies of Endorsements effecting coverage as required herein, or 2) if requested to do so in writing by the County Risk Manager, provide original Certified copies of policies including all Endorsements and all attachments thereto, showing such insurance is in full force and effect. The County of Riverside, its Director's and Officers, Special

Districts, Board of Supervisors, elected officials, employees, agents or representatives are named as Additional Insureds. Further, said Certificate(s) and policies of insurance shall contain the covenant of the insurance carrier(s) that shall provide no less than thirty (30) days written notice be given to the County of Riverside prior to any material modification or cancellation of such insurance. In the event of a material modification or cancellation of coverage, this Agreement shall terminate forthwith, unless the County of Riverside receives, prior to such effective date, another properly executed original Certificate of Insurance and original copies of endorsements or certified original policies, including all endorsements and attachments thereto evidencing coverages set forth herein and the insurance required herein is in full force and effect. **CONTRACTOR shall not take possession, or use the Premises, or commence operations under this Agreement until the County of Riverside has been furnished original Certificate(s) of Insurance and certified original copies of Endorsements or policies of insurance including all Endorsements and any and all other attachments as required in this Section. The original Endorsements for each policy and the Certificate of Insurance shall be signed by an individual authorized by the insurance carrier to do so on its behalf.**

- c. It is understood and agreed to by the parties hereto and the insurance company(s), that the Certificate(s) of Insurance and policies shall so covenant and shall be construed as primary, and the COUNTY'S insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory.

The County of Riverside's Reserved Rights-Insurance. The County of Riverside reserves the right to adjust the monetary limits of insurance coverage's during the term of this agreement or any extension thereof-if in the County Risk Manager's reasonable judgment, the amount or type of insurance carried by the CONTRACTOR becomes inadequate.

- d. CONTRACTOR shall pass down the insurance obligations contained herein to all tiers of sub-consultants working under this Agreement.

## 2.4 INDEMNITY AND HOLD HARMLESS

2.4.1 CONTRACTOR agrees to and shall indemnify and hold the COUNTY-its officers, employees and agents free and harmless from any and all claims, actions, damages and liabilities of whatsoever kind and nature arising from death, personal injury, property damage or other cause asserted or, based upon any negligent act or omission of CONTRACTOR, its employees, agents, invitees, or any subcontractor of CONTRACTOR relating to or in any way connected with the accomplishment of the work or performance of services under this Agreement, regardless of the existence or degree of fault or negligence on the part of the COUNTY or any officer or employee of said COUNTY, other than the sole active negligence or willful misconduct of COUNTY-its Directors and Officers, Special Districts, Board of Supervisors, elected officials, employees, agents or representatives. As part hereto of the foregoing indemnity CONTRACTOR agrees to protect and defend at its own expense, including attorneys' fees the COUNTY-its Directors and Officers, Special Districts, Board of Supervisors, elected officials, employees, agents or representatives from any and all legal action based upon any acts or omissions, as stated hereinabove, by any person or persons.

2.4.2 If any such claim, action, or proceeding is brought against County or County's officers, agents, employees, or independent contractors, Contractor, upon notice from County, shall defend the same at Contractor's expense by counsel satisfactory to County.

2.4.3 County shall promptly notify Contractor of any claim, action, or proceeding against County or County's officers, agents employees, independent contractors, and consultants relating to the performance, or omission

to perform, any term or condition of this Contract. County shall cooperate fully in the defense of such claim, action, or proceeding.

- 2.4.4 County shall not be liable or responsible for any accident, loss or damage occurring to the Work prior to the completion and Acceptance of same, unless otherwise specifically agreed to at the time of occupancy by the County.

### **ARTICLE 3    SITE CONDITIONS**

#### **3.1    DIFFERING SITE CONDITIONS**

- 3.1.1 The Contractor shall have reviewed and ascertained pertinent local conditions such as location, accessibility, and general character of the site and satisfy himself as to the conditions under which the Work is to be performed. No claim for allowances shall be made because of Contractor's error or negligence in acquainting himself with the conditions at the site.
- 3.1.2 The Contractor shall carefully study and compare the Contract Documents with each other and with information furnished by County. The Contractor shall promptly report in writing to County any errors, inconsistencies, or omissions in the Contract Documents or inconsistencies with applicable code requirements observed by Contractor.
- 3.1.3 If Contractor performs any construction activity which it knows or should know involves an error, inconsistency, or omission without notifying and obtaining the written consent of County, Contractor shall be responsible for the resultant losses, including, without limitation, the costs of correcting defective work.
- 3.1.4 The County will furnish surveys necessary to properly locate the property and establish the boundaries thereof with general reference points as well as to enable the Contractor to proceed with the Work.
- 3.1.5 The Contractor shall provide competent engineering services to lay out the Work and all parts thereof and to establish all grades and elevations in accordance with the Contract requirements. He shall verify the figures shown on the survey and approach drawings before undertaking any construction work and shall be responsible for the accuracy of the finished work.
- 3.1.6 The Contractor shall protect and preserve established bench marks and monuments and shall make no changes in locations without the written approval of the County. Any bench marks or monuments that are lost or destroyed shall be replaced by the Contractor subsequent to notification and approval from County.

#### **3.2    SITE INVESTIGATION AND CONDITIONS AFFECTING THE WORK**

- 3.2.1 The Contractor acknowledges by submission of his/her bid that he has satisfied himself as to the character, quality, and quantity of surface and subsurface materials or obstacles to be encountered insofar as this information is reasonably ascertainable from an inspection of the site, including any exploratory work deemed necessary by the Contractor. Any failure of the Contractor to take the actions described and acknowledged in this paragraph will not relieve the Contractor from responsibility for estimating the difficulty and cost of successfully performing the Work, or for proceeding to successfully perform the Work without additional expense to the County.

#### **3.3    DIMENSIONS AND MEASUREMENTS**

- 3.3.1 All dimensions shown for existing conditions and all dimensions required for work that is to connect with work now in place, shall be verified and calculated by the Contractor by actual measurement of the existing work. Any discrepancies between the Contract Documents and the existing conditions shall be referred to the authorized representative of the County before any work affected thereby has been performed. Failure to notify the County before starting work will be considered acceptance by the Contractor. Where doubts as to dimensions exist, County shall determine the correct dimensions.

#### **ARTICLE 4 SPECIFICATIONS AND DRAWINGS**

##### **4.1 GENERAL PROVISIONS**

##### **4.1.1 SUBDIVISIONS**

For convenience, the specifications are arranged into several sections, but such separation shall not be considered as the limits of the work required of any separate trade. The terms and conditions of such limitations are wholly between the Contractor and his subcontractors. Requirements contained in any section are required as if contained in all sections and are the responsibility of the Contractor. The Contractor, prior to awarding subcontracts, will assure the Work required as a whole has been coordinated among the subcontracts.

##### **4.1.2 RECORD DOCUMENTS**

- a. The Contractor shall keep on the Work site a copy of the awarded construction documents (drawings and specifications) and shall at all times give the County and Architect access thereto.
- b. The Contractor will be given one set of drawings and specifications which shall be kept at the site of the Work at all times and updated weekly. Payment may be withheld if drawings are not kept current. Exact locations of all pipes and conduits and all changes in construction and details shall be indicated and dimensions provided upon these drawings, and all changes in materials and equipment installed shall be indicated in these specifications. Upon completion and prior to Acceptance of the Work, a final reproducible (transparencies) set of project record documents and specifications shall be submitted to the County by the Contractor. County will furnish a set of reproducibles.
- c. The working details will indicate dimensions, position, and kind of construction, and the specifications, qualities, and methods. Any Work indicated on the working details and not mentioned in the specifications, or vice versa, shall be furnished as though fully set forth in both. Work not particularly detailed, marked, or specified shall be the same as similar work that is detailed, marked, or specified.
- d. In case of discrepancy in the documents, the matter shall be promptly submitted to the County, who shall make a determination in writing. Any adjustment by the Contractor without such a determination shall be at its own risk and expense. The County shall furnish from time to time such detailed information as considered necessary to clarify the Work.
- e. Where the word "similar" occurs on the drawings, it shall have a general meaning and not be interpreted as meaning identical, and all details shall be worked out in relation to their location and their connection with other parts of the work.
- f. Standard details or specification drawings are applicable when listed, bound with specifications, noted

on the drawings or referenced elsewhere in the specifications. Where the notes on the drawings indicate modifications, such modifications shall govern.

- g. All drawings, specifications and copies thereof furnished to the Contractor are the property of the County and shall not be used on other work without its consent. Upon completion of this project, all copies of the drawings and specifications shall be returned to the County.

## **4.2 SUMMARY OF THE ORDER OF THE PROCEDURE**

**4.2.1** In case of conflicts between the Contract Documents, the order of precedence shall be as follows:

- 1) Modifications or changes last in time are first in precedence.
- 2) Addenda.
- 3) County-Contractor agreement.
- 4) General Conditions except for specific modifications thereto stated in the Supplementary Conditions.
- 5) Supplementary Conditions.
- 6) Division One Specifications.
- 7) Division Two through Sixteen Specifications.
- 8) Drawings - as between figured dimensions given on drawings and the scaled measurements, the figured dimension shall govern; as between large-scale drawings and small-scale drawings, the larger scale shall govern.
- 9) Structural drawings
- 10) Architectural drawings.
- 11) As between detailed drawings and typical details bound within the specifications, the detailed drawings govern.
- 12) In the event provisions of codes, safety orders, contract documents, referenced manufacturer's specifications or industry standards are in conflict, the more restrictive and higher quality shall govern.
- 13) Schedules shown on the drawings take precedence over conflicting information given on other drawings.
- 14) Mechanical drawings.
- 15) Electrical drawings.

## **4.3 CLARIFICATIONS/REQUEST FOR INFORMATION AND ADDITIONAL INSTRUCTIONS**

### **4.3.1 NOTIFICATION BY CONTRACTOR**

- a. Should Contractor discover what he perceives to be conflicts, omissions, or errors in the Contract Documents, or have any question concerning interpretation or clarification of the Contract Documents, or if it appears that the work to be done or any matters relative thereto are not sufficiently detailed or explained in the Contract Documents, then, before proceeding with the work affected, Contractor shall notify County's authorized representative in writing, and request interpretation, clarification, or additional detailed information concerning the work. The Contractor shall ask for the clarification (Request for Information) immediately upon discovery but no less than 14 calendar days prior to the start date of the activities related to the clarification, based on the latest updated version of the accepted Progress Schedule. County, whose decision shall be final and conclusive, shall resolve such questions and issue instructions to Contractor. Should Contractor proceed with work affected before receipt of instructions from County, Contractor shall remove and replace or adjust work which is not in accordance with the instructions from County and shall be

responsible for resultant damage, defect or added cost. In event of failure to agree as to scope of Contract requirements, Contractor shall follow the procedure set forth in the DISPUTES article.

- b. The Contractor shall not be entitled to any compensation for delays, disruptions, inefficiencies or additional administrative effort caused by the Contractor's untimely review of the Contract Documents for potential conflicts, omissions, discrepancies or ambiguities.
- c. County may charge back to the Contractor, time and expense associated with RFI's, as may be reasonably determined by the County to be unnecessary.

#### **4.3.2 ADDITIONAL DETAILED INSTRUCTIONS**

- a. The County may furnish additional detailed written instructions on any Request for Information to further explain the Work. If in the opinion of Contractor, the additional detailed instructions constitute work in excess of the scope of the Contract, he must submit written notice thereof immediately to the County, but no later than seven (7) calendar days following receipt of such instruction(s), and in any event prior to commencement of work thereon. The Contractor shall not be entitled to additional compensation due to any additional instructions unless the Contractor shall have given the appropriate written notice. County will then consider such notice and, if in its judgment it is justified, the County instructions will be revised or extra work shall be authorized by Change Order. In the event of a dispute hereunder, attention is directed to the DISPUTES article.

### **ARTICLE 5 SHOP DRAWINGS AND SUBMITTALS**

#### **5.1 SHOP DRAWINGS, PRODUCT DATA, COORDINATION DRAWINGS AND SCHEDULES**

**5.1.1** Shop drawings are drawings submitted to the County by the Contractor showing detail of the proposed fabrication and assembly of structural elements and the installation (i.e., form, fit, and attachment details) of materials or equipment. It includes drawings, diagrams, layouts, schematics, descriptive literature, illustrations, schedules, fabrication, erection and setting drawings, manufacturers' scale drawings, wiring and control diagrams, cuts or entire catalogs, pamphlets, and performance and test data, and similar materials furnished by the Contractor to explain in detail specific portions of the Work required by the Contract. The County may duplicate, use, and disclose in any manner and for any purpose shop drawings delivered under this Contract.

**5.1.2** The Contractor shall coordinate all shop drawings and review them for accuracy, completeness, and compliance with Contract requirements, and shall indicate its approval thereon as evidence of such coordination and review. Shop drawings submitted to the County without evidence of the Contractor's approval shall be returned for resubmission. The Architect will indicate review for compliance of the shop drawings, and if not in compliance as submitted, shall indicate the reasons therefore. Any work done before such review shall be at the Contractor's risk. Review by the Architect shall not relieve the Contractor from responsibility for any errors or omissions in such drawings, nor from responsibility for complying with the requirements of this Contract, except with respect to variations described and approved in accordance with paragraph 5.1.3.

**5.1.3** If shop drawings show any variations from the Contract requirements, the Contractor shall describe such variations in writing, separate from the drawings, at the time of submission. If the Architect approves any such variation, no change in time or price will be allowed for Contractor changes. Should the Architect make changes on the shop drawings which affect time and/or cost, the Contractor will immediately notify the County with a Request for Information. If the Contractor fails to issue the Request for Information within seven (7) calendar days from receipt of the returned shop drawing, the Contractor shall have waived his right to any

potential Change Order.

**5.1.4** The Contractor shall submit shop drawings, coordination drawings, and schedules for review as required by the Contract Documents. The Contractor will provide a submittal schedule listing all shop drawings and submittals, the submission dates by the Contractor, and return dates from the Architect. This schedule will be provided fourteen (14) calendar days after the Notice to Proceed.

**5.1.5** Shop drawings and schedules, other than catalogs, pamphlets, and similar printed material, shall be submitted with one reproducible plus one copy.

**5.1.6** Each shop drawing or coordination drawing shall have a blank area 4 by 4 inches located adjacent to the title block. The title block shall display the following:

- 1) Number and title of drawing
- 2) Date of drawing or revision
- 3) Name of project building or facility
- 4) Name of Contractor and (if appropriate) name of subcontractor submitting drawings
- 5) Clear identity of contents and location on the work
- 6) Project title and project number
- 7) Submittal number

**5.1.7** Unless otherwise provided in this Contract or otherwise directed by County, shop drawings, coordination drawings, and schedules shall be submitted to the Architect with a letter, sufficiently in advance of construction requirements to permit no less than twenty (21) calendar days for checking and appropriate action.

## **5.2 SAMPLES**

**5.2.1** After the award of the Contract, the Contractor shall deliver samples required by the specifications to the County for approval. The Contractor shall prepay any shipping charges. Any materials or equipment for which samples are required shall not be used in the Work until reviewed by County.

**5.2.2** Each sample shall have a label indicating:

- 1) Name of project building or facility, project title, and project number.
- 2) Name of Contractor and, if appropriate, name of subcontractor.
- 3) Identification of material or equipment with specification requirement.
- 4) Place of origin.
- 5) Name of manufacturer and brand (if any).
- 6) Identify by specification section.

**5.2.3** Samples of finished materials shall have additional markings that will identify them in reference to the finish schedules.

**5.2.4** The Contractor shall mail a letter in triplicate under separate cover submitting each shipment of samples and containing the information required in paragraph 5.2.2. He shall enclose a copy of this letter with the shipment and send a copy to the County representative on the project. Approval of a sample shall be only for the characteristics or use named in such review and shall not be construed to change or modify any Contract requirement. Substitutions will not be permitted unless they are approved under paragraph 5.3.

**5.2.5** Approved samples not destroyed in testing will be sent to the County. Approved samples of hardware in good condition will be marked for identification and may be used in the Work. Materials and equipment



incorporated in the Work shall match the approved samples. Other samples not destroyed in testing or not approved will be returned to the Contractor at his expense if so requested at time of submission.

- 5.2.6 Failure of any material to pass the specified tests will be sufficient cause for refusal to consider any further samples of the same brand or make of that material or equipment under this Contract.
- 5.2.7 Samples of various materials or equipment delivered on the site or in place, may be taken by the County for testing. Samples failing to meet Contract requirements will automatically void previous approvals of the items tested. The Contractor shall replace such materials or equipment found not to have met Contract requirements, or there shall be a proper adjustment of the Contract price as determined by the County.
- 5.2.8 Unless otherwise specified, when tests are required, only one test of each sample proposed for use will be made at the expense of the County. Samples which do not meet specification requirements will be rejected. Requests for testing of additional samples by Contractor may be made by the County at the expense of the Contractor.

### 5.3 SUBSTITUTIONS

- 5.3.1 Wherever the name, or brand, or manufacturer of an article is specified in the Contract Documents, it is used as a measure of quality and utility or a standard. Except in those instances where the product is designated to match others presently in use, specifications calling for a designated material, product, thing or service by specific brand or trade name shall be deemed to be followed by the words "or equal" so that bidders may propose any equal material, product, thing or service in their bid. If the Contractor desires to use any other brand or manufacturer of equal quality and utility to that specified, he shall list definite particulars of that which he considers equivalent to the specified item in his bid. The Contractor shall have thirty-five (35) days after the award of the Contract for submission of data substantiating substitution of "equal" items. The County will then determine whether or not the proposed name brand or article is equal in quality and utility to that specified in the Contract Documents, and its written decision shall be final.
- 5.3.2 No proposal will be considered unless accompanied by complete information and descriptive data necessary to determine the equality of the offered materials, articles, or equipment. Samples shall be provided when requested by the County.
- 5.3.3 The burden of proof as to the comparative quality or suitability of the offered materials, articles, or equipment shall be upon the Contractor. The County shall be the sole judge as to such matters. In the event that the County rejects the use of such alternative materials, articles, or equipment, then one of the particular products designated by brand name in the specifications shall be furnished.
- 5.3.4 The County will examine Contractor's submittals with reasonable promptness. Return of the submittals to the Contractor shall not relieve the Contractor from responsibility for deviations and alternatives from the Contract Documents nor shall it relieve him from responsibility for errors in the submittals. A failure by the Contractor to identify, in his letter of transmittal, material deviations from the Contract Documents shall void the submittal and any action taken thereon by the County. When specifically requested by the County, the Contractor shall resubmit such shop drawing(s), descriptive data, and samples as may be required.
- 5.3.5 If any mechanical, electrical, structural, or design revisions are required for the proper installation and fit of alternative materials, articles, or equipment, or because of deviations from the Contract Documents, such changes shall not be made without the consent of the County's authorized representative, and shall be made without additional cost to the County, such costs, including the fees of the Architect, to be borne by the Contractor.

## **ARTICLE 6 SCHEDULES**

### **6.1 CONSTRUCTION SCHEDULE**

- 6.1.1** The Contractor shall prepare and submit to the County a practicable schedule showing the order in which the Contractor proposes to perform the work, and the dates on which the Contractor contemplates starting and completing the salient features of the work (including acquiring materials and equipment). The schedule shall be in the form of a CPM (critical path method) schedule, of suitable scale to indicate appropriately the percentage of work scheduled for completion by any given date during the period. The scheduled completion date shall be the same as the contractual completion date, for the initial schedule and subsequent updates. Any proposed early completion date shall show the difference between that date and the contract completion date as Float, which shall belong to both the County and Contractor.
- 6.1.2** If, in the opinion of the County, the Contractor falls behind the approved schedule, the Contractor shall take steps necessary to improve its progress, without additional cost to the County. The Contractor shall submit any supplementary schedule or schedules in CPM form as the County deems necessary to demonstrate how the approved rate of progress will be regained.
- 6.1.3** All schedule updates must accurately reflect the as-built schedule. There shall be no change to the Critical Path without the County's written consent.

## **ARTICLE 7 TIME, LIQUIDATED DAMAGES AND EXTENSIONS**

### **7.1 TIME OF WORK**

The Contractor shall commence work on this project immediately upon receipt of the written Notice to Proceed and shall perform the work diligently to completion within the number of calendar days specified in the Contract. Neither site access nor physical work shall be commenced before the Contract is fully executed, and bonds, insurance and the schedule are submitted as required by the Contract Documents. No work shall be done on Saturday, Sunday and holidays and no work shall be performed outside of normal working hours without the prior written consent of the County, unless required by these Specifications. See: Working Hours.

### **7.2 LIQUIDATED DAMAGES**

If the Work is not completed within the time required, damage will be sustained by the County. It is and will be impracticable and extremely difficult to ascertain and determine actual damage which County will sustain by reason of such delay; and it is therefore agreed that Contractor will pay to County the sum of \$1,000.00 per day for each and every day's delay in finishing the Work beyond the time prescribed. If the Contractor fails to pay such liquidated damages, the County may deduct the amount thereof from any money due or that may become due the Contractor under the Contract.

### **7.3 UNAVOIDABLE DELAYS**

#### **7.3.1 TIME EXTENSION**

- a. The Contractor will be granted an extension of time for completion of the Work beyond that named in the Contract Documents, for delays which may result through causes beyond the

control of the Contractor and which he could not have avoided by the exercise of care, prudence, foresight and diligence. The appropriate extension of time shall constitute full compensation. Costs associated with extended overhead will not be considered.

- b. If the Contractor is allowed extensions of time in which to complete the Work equal to the sum of all unavoidable delays, plus any adjustments of contract time due to contract change orders, during such extension of time liquidated damages shall not be charged to the Contractor.
- c. Unavoidable delays within the meaning of this section shall be those caused by Acts of God or of the public enemy, fire, epidemics, or strike. There will be no liquidated damages for delays as described within this paragraph.
- d. Delays in the performance of parts of the work which may in themselves be unavoidable, but do not necessarily prevent or delay the performance of critical activity(s) while the activity(s) is on the Critical Path, will not be considered as unavoidable delays within the meaning of the contract and shall not be the basis of a claim for delay.

### **7.3.2 WEATHER**

Inclement weather shall not be a prima facie reason for granting a time extension. The Contractor shall make every effort to continue work under prevailing conditions. However, if the inclement weather prevents the Contractor from beginning at the usual starting time, or prevents the Contractor from proceeding with seventy-five percent (75%) of the normal labor and equipment force towards completion of the day's current Critical Path activities (shown on the most current, and accepted schedule update) for a period of at least five (5) hours, and the crew is dismissed as a result thereof, the County will designate such time as unavoidable delay and grant a one (1) calendar day, non-compensable, time extension.

### **7.3.3 NOTICE OF DELAYS**

- a. Whenever the Contractor foresees any delay in the performance of a Critical Path work activity, and in any event immediately upon the occurrence of any delay which he regards as an unavoidable delay, the Contractor shall notify the County in writing of such delay and its cause, in order that the County may take immediate steps to prevent, if possible, the occurrence or continuance of the delay, and may determine whether the delay is to be considered avoidable or unavoidable, how long it continues, and to what extent the prosecution and completion of the work are to be delayed thereby.
- b. After the completion of any part or the whole of the Work, the County, in calculating the amount due the Contractor, will assume that any and all delays which have occurred have been avoidable delays, except such delays as shall have been called to the attention of the County at the time of their occurrence and found by the County to have been unavoidable as substantiated by a change order. The Contractor shall make no claims that any delay not called to the attention of the County at the time of its occurrence has been an unavoidable delay.

### **7.4 REQUEST FOR TIME EXTENSION**

- 7.4.1 In the event the Contractor requests an extension of contract time for unavoidable delay, justification shall be

submitted no later than seven (7) calendar days after the initial occurrence of any such delay. When requesting time for proposed change orders, the request(s) must be submitted with the proposed change order with full justification. If the Contractor fails to submit justification he shall waive his right to a time extension at a later date. Justification must be based on the currently accepted contract schedule as updated at the time of occurrence of delay or execution of work related to any change(s) in the scope of work. The justification must include a schedule, including, but not limited to, the following information:

- a. The duration to perform the activity relating to the change(s) in the work and the resources (manpower, equipment, material, etc.) required to perform these activities within the stated duration.
- b. Logical activity ties to the contract schedule for the proposed changes and/or delay showing the activity/activities in the schedule whose start or completion dates are affected by the change and/or delay.

7.4.2 The County, after receipt of such justification and supporting evidence, shall make its finding of fact. The County's decision shall be final and conclusive and the County will advise the Contractor in writing of such decision. If the County finds that the Contractor is entitled to any extension of Contract time, the County's determination as to the total number of days of extension shall be based upon the latest updated version of the approved contract schedule.

7.4.3 In the event the Contractor disagrees with the County's decision, the Contractor shall be required to submit a claim pursuant to the DISPUTE article.

## **ARTICLE 8    PERFORMANCE**

### **8.1    SUPERVISION & CONSTRUCTION PROCEDURES**

8.1.1 The Contractor shall supervise and direct the work. The Contractor shall be solely responsible for all construction means, methods, techniques, sequences, procedures, project safety, and shall coordinate all portions of the Work under the Contract, including the relations of the various trades to the progress of the Work, in accordance with the provisions of the Contract Documents.

8.1.2 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.

8.1.3 The Contractor is an independent contractor and nothing in the Contract Documents shall be interpreted to make the Contractor an agent of the County.

### **8.2    SUPERVISION**

8.2.1 Within seven (7) days after the Notice to Proceed, the Contractor shall provide to the County an organization chart outlining key job personnel. The Contractor will also provide a Letter of Authority or Corporate Resolution for the individual(s) authorized to sign documents on its behalf, i.e., payment requests, change orders, inspection reports, etc.

8.2.2 The Contractor shall employ, during the progress of the Work, a competent Project Superintendent and any necessary assistants, as approved by the County. The Project Superintendent shall not be changed except with the consent of the Authorized Representative of County, unless the Superintendent proves to be unsatisfactory

to the Contractor or ceases to be in his employ. The County shall be notified immediately of any new Superintendent appointed to the Work and the Contractor shall submit qualifications for approval. The Superintendent shall represent the Contractor and all directions given to him shall be as binding as if given to the Contractor.

**8.2.3** The County shall be supplied at all times with the name and telephone number of a person in charge of or responsible for the Work, who can be reached for emergency work twenty-four (24) hours a day, seven (7) days a week.

### **8.3 CONDUCT OF WORK**

**8.3.1** In connecting one kind of work with another, marring or damaging same will not be permitted and, in the event such occurs, shall be corrected by the Contractor at its cost prior to acceptance by the County. Should improper work of any trade be covered by another which results in damage or defects, the whole work affected shall be made good by the Contractor without expense to County.

### **8.4 PROTECTION OF WORK & PROPERTY**

**8.4.1** The Contractor shall continuously maintain adequate protection of the Work from damage and shall protect the County's property from injury or loss in connection with this Contract. He shall make good any such damage, injury, or loss, except what may be directly due to errors in the Contract Documents or caused by agents or employees of the County. He shall adequately protect adjacent property as provided by law and the Contract Documents.

**8.4.2** The Contractor shall preserve and protect all structures, equipment, and vegetation (such as trees, shrubs, and grass) on or adjacent to the Work site which are not to be removed and which do not unreasonably interfere with the work required under this Contract.

**8.4.3** The Contractor shall protect from damage all existing improvements and utilities at or near the Work site and on adjacent property of a third party, the locations of which are made known to or should be known by the Contractor. The Contractor shall repair any damage to those facilities, including those that are the property of a third party, resulting from failure to comply with the requirements of this Contract or failure to exercise reasonable care in performing the Work. If the Contractor fails to repair the damage promptly, the County may have the necessary work performed and charge the cost to the Contractor.

### **8.5 CONTRACTOR'S RESPONSIBILITY FOR WORK**

**8.5.1** Until Acceptance of the Work by the County, Contractor shall have the charge and care thereof and shall bear risk of injury or damage to any part of the Work by action of the elements. If a separate Contractor sues the Owner, on account of any loss so sustained, the County shall notify the Contractor, who shall indemnify and hold harmless the County against any expenses, or judgment arising therefrom.

**8.5.2** Contractor, at its cost, shall rebuild, repair, restore and make good all damages from the elements to any portion of the Work occasioned by such causes before its Acceptance.

**8.5.3** No advertising of any description will be permitted in or about the Work, except by order of the County.

**8.5.4** Contractor shall not create or permit the continued existence of any nuisance in or about the Work.

## 8.6 UTILITIES

- 8.6.1 Unless otherwise provided for under separate sections herein, Contractor will arrange all water, gas, and electricity required for construction purposes until acceptance of the Work. Contractor shall pay for such services unless otherwise specifically noted.
- 8.6.2 Utilities shall not be interrupted except with the approval of the County. A two (2) work day written notice is required prior to any and all interruptions. Interruptions shall be scheduled so as to minimize duration and disruption to existing operations.
- 8.6.3
- a. The Contractor shall send notices, make all necessary arrangements, and perform all other services required in the care and maintenance of all public utilities.
  - b. Enclosing or boxing in, for protection of any public utility equipment, shall be done by the Contractor. Upon completion of the Work, the Contractor shall remove all enclosures, and leave in a finished condition.
  - c. All connections to public utilities shall be made and maintained in a manner so as not to interfere with the continuing use of same by the County during the entire progress of the Work.

## 8.7 WORKING HOURS

- 8.7.1 All work shall be performed on a calendar day basis during the customary working hours of the trades involved unless otherwise specified in this Contract. Work performed by the Contractor of his own volition outside such established working hours shall be at no additional expense to the County and without County approval.
- 8.7.2 It is expressly stipulated that no laborer, workman, or mechanic employed at any time by the Contractor or by any subcontractor(s) under this Contract upon the Work or any part thereof, shall be required or permitted to work thereon more than eight (8) hours during any one calendar day and forty (40) hours during any one calendar week, except, as provided by Section 1815 of the California Labor Code. It is further expressly stipulated that for each and every violation of Sections 1811-1815, inclusive, of the California Labor Code, all the provisions of which are deemed to be incorporated herein, said contractor shall forfeit, as a penalty to County, twenty-five dollars (\$25.00) for each laborer, workman, or mechanic employed in the execution of this Contract by contractor for each calendar day during which said laborer, workman, or mechanic is required or permitted to work more than eight hours in any one calendar day and forty hours in any one calendar week in violation of the provisions of said Sections of the Labor Code.
- 8.7.3 The Contractor, and each subcontractor, shall keep an accurate record showing the names of and actual hours worked each calendar day and each calendar week by all laborers, workmen, and mechanics employed by them in connection with the Work contemplated by this Contract, which record shall be open at all reasonable hours to the inspection of the County or its officers or agents and to the Division of Labor Standards Enforcement of the Department of Industrial Relations.
- 8.7.4 No construction work shall be done on Saturdays, Sundays or County holidays and no work shall be performed outside of normal working hours without the prior written consent of the County. In any event, all work shall be subject to approval of the County. Prior to start of such work, the Contractor shall arrange with the County for the continuous or periodic inspection of the Work and testing of materials, when necessary. If requests are made by the Contractor for permission to work overtime, nights, Saturdays, Sundays or County holidays, and

such requests are granted, the Contractor shall bear all extra expense to the County for inspection and other incidental expenses caused by such overtime work. If contractors are requested, in the interest of the County, to work overtime by the County, or if overtime work is specifically required by these specifications, all extra expense of inspection will be paid by the County.

## **8.8 MATERIAL & EQUIPMENT**

**8.8.1** Materials, equipment, and articles incorporated into the Work shall be new and of equal quality to the types and grades specified. When not particularly specified, the Contractor shall submit for approval satisfactory evidence as to the kind and quality of material. See SUBSTITUTION provision 5.3 concerning "or equal" requirements and procedure for submitting alternative material, articles, or equipment.

**8.8.2** All materials shall be delivered so as to insure a speedy and uninterrupted progress of the Work. All materials shall be stored so as to cause no obstruction and so as to prevent overloading of any portion of the structure on the Work site, and the Contractor shall be entirely responsible for damage or loss by weather, theft, vandalism, or other cause.

**8.8.3** Materials shall be stored to assure the preservation of their quality and fitness for the Work. Stored materials shall be reasonably accessible for inspection. When considered necessary by the County, stored materials shall be placed on wooden platforms or on other hard, clean surfaces and not directly on the ground, and shall be placed under cover when so directed.

## **8.9 LAYOUT OF WORK**

**8.9.1** The Contractor shall lay out its work from established base lines and bench marks indicated on the drawings, and shall be responsible for all measurements in connection with the layout. The Contractor shall furnish, at its own expense, all stakes, templates, platforms, equipment, tools, material, and labor required to lay out any part of the Work. The Contractor shall be responsible for executing the Work to the lines and grades that may be established or indicated in the Contract Documents. The Contractor shall also be responsible for maintaining and preserving all stakes and other marks established by the County until authorized to remove them. If such marks are destroyed by the Contractor before their removal is authorized, the County may replace them and deduct the expense of the replacement from any amounts due or to become due to the Contractor.

## **8.10 USE OF PREMISES**

**8.10.1** The Contractor shall maintain the entire premises under his control in an orderly condition. He shall store his apparatus, materials, supplies and equipment in such a manner as will not interfere with the progress of his work or the work of other contractors.

## **8.11 OPERATIONS & STORAGE**

**8.11.1** The Contractor shall confine all operations (including storage of materials) on County premises to areas authorized or approved by the County.

**8.11.2** Temporary buildings (e.g., storage sheds, shops, offices) and utilities may be erected by the Contractor only with the approval of the County and shall be built with labor and materials furnished by the Contractor without expense to the County. The temporary buildings and utilities shall remain the property of the Contractor and shall be removed by the Contractor at his expense upon completion of the work.

**8.11.3** The Contractor shall, under regulations prescribed by the authority having jurisdiction, use only established

roadways, or use temporary roadways constructed by the Contractor when and as authorized by the authority having jurisdiction. When materials are transported in performance of the Work, vehicles shall not be loaded beyond the loading capacity recommended by the manufacturer of the vehicle or prescribed by any Federal, State, or County regulation. When it is necessary to cross curbs or sidewalks, the Contractor shall protect them from damage. The Contractor shall repair, or pay for the repair, of any damaged curbs, sidewalks, or roads.

## **8.12 HEAT/POWER/LIGHT**

**8.12.1** Unless otherwise specified or already provided by the County, the Contractor shall:

- a. Provide heat, as necessary to protect all work, materials, and equipment against injury from dampness and cold;
- b. Provide heat as necessary in the area where work is to be done to provide the minimum temperature recommended by the supplier or manufacturer of the material;
- c. Provide electric power and light as required for performance of the Work.

## **8.13 CLEANING UP**

**8.13.1** The Contractor shall at all times keep the work area, including storage areas, free from accumulations of waste materials. Before completing the Work, the Contractor shall remove from the work and premises any weeds, rubbish, tools, scaffolding, equipment, and materials that are not the property of the County. Upon completing the Work, the Contractor shall leave the work area in a clean, neat, and orderly condition satisfactory to the County.

## **ARTICLE 9 SAFETY & HEALTH**

### **9.1 ACCIDENT PREVENTION**

**9.1.1** In performing this Contract, the Contractor shall provide for protecting the lives and health of employees and other persons; preventing damage to property, materials, supplies, and equipment; and avoiding work interruptions. For these purposes, the Contractor shall:

- a. Provide a copy of its safety program;
- b. Provide appropriate safety barricades, signs, and signal lights;
- c. Comply with standards issued by the U.S. Government, State, County and City, and other governing agencies having jurisdiction;
- d. Ensure that any additional measures the County determines to be reasonably necessary for this purpose are taken.

**9.1.2** The Contractor shall maintain an accurate record of exposure data on all accidents incident to work performed under this Contract resulting in death, traumatic injury, occupational disease, or damage to property, materials, supplies, or equipment. The Contractor shall report this data in the manner prescribed by the County.

**9.1.3** Before beginning excavation for a trench 5 feet or more in depth, Contractor shall provide evidence of having obtained a permit from the authority having jurisdiction.



9.1.4 Nothing herein shall be deemed to allow use of shoring, sloping, or protective systems less effective than those required by the Construction Safety Orders of the California Division of Industrial Safety.

## 9.2 SANITARY FACILITIES

9.2.1 Contractor shall supply and maintain at its expense such toilets and other sanitary facilities including those which are accessible by the disabled as per ADA and Title 24 requirements necessary for use by visitors and workers employed at the job site. Such facilities shall be approved by the County.

## 9.3 RESPONSIBILITY FOR COMPLIANCE WITH CAL-OSHA

9.3.1 All work, materials, work safety procedures and equipment shall be in full accordance with the latest Cal-OSHA rules and regulations.

9.3.2 Contractor warrants that he and each of his subcontractors shall, in performance of this Contract, comply with each and every compliance order issued pursuant to Cal-OSHA. The Contractor assumes full and total responsibility for compliance with Cal-OSHA standards by his subcontractors as well as himself. The cost of complying with any order and/or payment of any penalty assessed pursuant to Cal-OSHA shall be borne by the Contractor. Nothing contained therein shall be deemed to prevent the Contractor and his subcontractors from otherwise allocating between themselves responsibility for compliance with Cal-OSHA requirements; provided, however, that the Contractor shall not thereby, in any manner whatsoever, be relieved of his responsibility to the County as herein set forth.

## 9.4 TOXIC AND HAZARDOUS MATERIALS AND WASTE

### 9.4.1 ASBESTOS

Operations which may cause release of asbestos fibers into the atmosphere shall meet the requirements of Title 8 CCR General Industrial Safety Orders, Section 5208 and California law. Some operations which may cause such concentrations include sanding, grinding, abrasive blasting, sawing, drilling, shoveling, or otherwise handling materials containing asbestos so that dust will be raised.

### 9.4.2 TOXIC MATERIALS

Operations which release toxic materials into the atmosphere shall meet the requirements of Title 8 CCR, General Industrial Safety Orders. Some operations which may release such materials include use of adhesives, sealants, paint, and other coatings.

### 9.4.3 LEAD-BASED PAINT

Lead-based paint is prohibited. Lead-based paint is defined as:

- a. Any paint containing more than five-tenths of one percentum lead by weight (calculated as lead metal in the total non-volatile content of the paint) or the equivalent measure of lead in the dried film of paint applied or both; or
- b. For paint manufactured after June 22, 1977, any paint containing more than six one-hundredths of one percentum lead by weight (calculated as lead metal) in the total content of the paint or the equivalent measure of lead in the dried film or paint already applied.

#### **9.4.4 HAULING AND DISPOSAL**

All hauling and disposal shall meet requirements of Title 22 CCR, Division 4, Chapter 30, "Minimum Standards for Management of Hazardous and Extremely Hazardous Wastes."

#### **9.4.5 ASBESTOS PROHIBITED**

No products or materials containing asbestos shall be incorporated into the Work without the prior written approval of the County.

### **ARTICLE 10 COUNTY-FURNISHED PROPERTY**

#### **10.1 COUNTY-FURNISHED PROPERTY**

**10.1.1** The County may furnish to the Contractor property as identified in the specification(s) to be incorporated or installed into the Work or used in performing the Contract. The listed property will be furnished f.o.b. railroad cars at the place specified in the Contract or f.o.b. truck at the project site. The Contractor is required to accept delivery. When the property is delivered, the Contractor shall verify its quantity and condition and acknowledge receipt in writing to the County within twenty-four (24) hours of delivery, also specifying any damage to or shortage of the property as received. All such property shall be installed or incorporated into the Work at the expense of the Contractor, unless otherwise indicated in this Contract.

**10.1.2** Each item of property to be furnished under this clause shall be identified by the Contractor in a schedule by quantity, item, and description. Schedule form will be provided by the County.

**10.1.3** The Contractor shall be held responsible for all material delivered to him and deductions will be made from any moneys due him to make good any shortages and deficiencies, from any cause whatsoever, which may occur after such delivery.

**10.1.4** The Contractor shall set up accounting records and establish an inspection procedure as approved by the County.

### **ARTICLE 11 BENEFICIAL OCCUPANCY**

#### **11.1 BENEFICIAL OCCUPANCY**

**11.1.1** The County shall have the right to take possession of or use any completed or partially completed portion of the Work. The County's possession or use shall not be deemed an acceptance of any Work under the Contract. The Contractor will continue to pay for any portion of the utilities which he is using.

**11.1.2** While the County has such possession or use, the Contractor shall be relieved of the responsibility for the loss of or damage to that portion of the Work resulting from the County's possession or use. If Contractor believes the partial possession or use by the County will delay the progress of the Work or will cause additional expense to the Contractor, Contractor shall immediately submit a written request for an equitable adjustment in the Contract price or the time of completion. County will then consider such request and, if in its judgment it is justified, the County will modify the contract in writing accordingly. In the event the Contractor disagrees with the County's decision, the Contractor shall be required to submit a claim pursuant to the DISPUTE article.

## **ARTICLE 12    INSPECTION AND TESTING**

### **12.1    INSPECTION AND TESTING**

**12.1.1** The Contractor shall maintain an adequate inspection system and perform such inspections as will ensure that the work called for by this Contract conforms to contract requirements. The Contractor shall maintain complete inspection records and make them available to the County. The County shall at all times have access to the Work, and the Contractor shall provide proper facilities for such access and for inspection.

**12.1.2** County inspections and tests are for the sole benefit of the County and do not:

- a.        Relieve the Contractor of responsibility for providing adequate quality control measures;
- b.        Relieve the Contractor of responsibility for damage to or loss of the material before Acceptance;
- c.        Constitute or imply Acceptance; or
- d.        Affect the continuing rights of the County after Acceptance regarding latent defects, gross mistakes, fraud or the County's rights under any warranty or guarantee.

**12.1.3** The presence or absence of a County inspector does not relieve the Contractor from any Contract requirement, nor is the inspector authorized to change any term or condition of the specifications without the County's written authorization.

**12.1.4** The Contractor shall promptly furnish, without additional charge, all facilities, labor, and material reasonably needed for performing such safe and convenient inspections and tests as may be required by the County. The County may charge to the Contractor any additional cost of inspection or test when work is not ready at the time specified by the Contractor for inspection or test, or when prior rejection makes reinspection or retest necessary. Special, full size, and performance tests shall be performed as described in the Contract.

**12.1.5** The Contractor shall, without charge, replace or correct work found by the County not to conform to contract requirements, unless in the public interest the County consents to accept the work with an appropriate adjustment in Contract price. The Contractor shall promptly segregate and remove rejected material from the premises.

**12.1.6** If, before Acceptance of the Work, the County decides to examine already completed work by removing it or tearing it out, the Contractor, on request, shall promptly furnish all necessary facilities, labor, and material. If the work is found to be defective or nonconforming in any material respect due to the fault of the Contractor or its subcontractors, the Contractor shall defray the expenses of the examination and of satisfactory reconstruction. However, if the work is found to meet Contract requirements, the County shall issue a Change Order for such removal and reinstallation.

**12.1.7** The Contractor shall at all times maintain proper facilities and provide safe access for inspection by the County to all parts of the work, and to the shops wherein the work is in preparation. Where the specifications require work to be specially tested or approved, it shall not be tested or covered up without timely notice to the County of its readiness for inspection and without the approval or consent of County. Should any such work be covered up without such notice, approval, or consent, it must, if required by County, be uncovered for examination at the Contractor's expense.

- 12.1.8** The Contractor shall notify the County at least one (1) work day in advance of the time scheduled for the inspection. Should the Contractor fail to notify the County and proceed with work requiring inspection, all such work is rejected, and no further work shall be done on that portion of the project until the rejected work is accepted by the County. Should the Contractor request acceptance of such rejected work the County shall, at the Contractor's expense, secure the services of private material testing laboratories, consulting engineers or licensed land surveyors, who shall certify that said work does in fact conform to the requirements of the Contract Documents. The work previously rejected shall be accepted by the County after receipt of such certification if the County approves of such certification.
- 12.1.9** If the Contractor does not promptly replace or correct rejected work, the County may (1) by contract or otherwise, replace or correct the work and charge the cost to the Contractor or (2) terminate for default the Contractor's right to proceed.
- 12.1.10** Construction review of the Contractor's performance by the County is not intended to include the review of the adequacy of the Contractor's safety measures, in, on, or near the construction site.
- 12.1.11** The County will pay for initial testing services specified to be performed by the County. 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 County from the Contract sum.

## **12.2 INSPECTION BY OTHER JURISDICTIONS**

Whenever any part of the Work to be performed is under the jurisdiction or control of another public entity, including but not limited to: The United States Government, State of California, or City, such work shall be subject to inspection by the officials of such entities and it must pass inspection, in addition to County inspection, and such other inspections as may otherwise be provided for in the Contract Documents.

## **12.3 FINAL INSPECTION AND TESTS**

The Contractor shall give the County at least ten (10) calendar days advance written notice of the date the Work will be fully completed and ready for final inspection and tests. Final inspection and tests will be started within ten (10) calendar days from the date specified in the aforementioned notice unless the County determines that the Work is not ready for final inspection and so informs the Contractor.

## **ARTICLE 13 ACCEPTANCE**

### **13.1 ACCEPTANCE OF THE WORK**

- 13.1.1** After the final inspection by County and all the contract documentation has been received, it will be recommended to the County Board of Supervisors to accept the Work and file a Notice of Completion. Upon approval of the Notice of Completion, a copy will be sent to the Contractor. (See final payment clause.) Upon Acceptance of the Work, Contractor will be relieved of the duty of maintaining and protecting the Work. Neither determination by the County that the Work is complete, nor Acceptance thereof, shall operate as a bar to County's claim against Contractor pursuant to Contractor's warranty and guarantees.
- 13.1.2** Partial payments shall not be construed as acceptance of any part of the Work.
- 13.1.3** In judging the Work, no allowance for deviations from the drawings and specifications will be made, unless already approved in writing at the time and in the manner as called for herein.

13.1.4 County shall be given adequate opportunity to make any necessary arrangements for fire insurance and extended coverage.

13.1.5 The Acceptance of the Work will not be recommended until all requirements of the Contract Documents are complete and approved by the County. This shall include, but is not limited to, all construction, guarantee forms, parts lists, schedules, tests, operating instructions, as-built drawings, and all other documentation identified by the Contract Documents.

#### **ARTICLE 14 WARRANTY AND GUARANTEES**

##### **14.1 CONTRACTOR'S WARRANTY AND GUARANTEE**

14.1.1 Contractor warrants that all materials and equipment furnished under this Contract shall be new unless otherwise specified, and that all Work performed under this Contract conforms to the Contract requirements and is free of any defect whether performed by the Contractor or any subcontractor or supplier.

14.1.2 This warranty shall continue for a period of one (1) year from the date of filing of Notice of Completion on the Work. The Performance Bond shall remain in force during the warranty period.

14.1.3 The Contractor shall remedy at the Contractor's expense any damage to County-owned or controlled real or personal property, when that damage is the result of:

- a. The Contractor's failure to conform to Contract requirements or
- b. Any defect of equipment, material, workmanship, or design furnished by the Contractor.

14.1.4 The Contractor shall restore any work damaged in fulfilling the terms and conditions of this Article. The Contractor's warranty with respect to work repaired or replaced will run for one (1) year from the date of repair or replacement.

14.1.5 The County shall notify the Contractor, in writing, within a reasonable time after the discovery of any failure, defect, or damage. The Contractor shall within ten (10) calendar days after being notified in writing by the County of any work not in accordance with the requirements of the Contract or any defects in the Work, commence, and perform with due diligence, all work necessary to fulfill the terms of this Article. If the Contractor fails to remedy any defect, or damage within fourteen (14) calendar days after receipt of notice, the County shall have the right to replace, repair, or otherwise remedy the defect, or damage at the Contractor's expense. Payment due to the Architect from the County for extra architectural services required in the enforcement of Contractor's guarantee after Acceptance of the Work shall be paid to the County by the Contractor.

14.1.6 In the event of any emergency constituting an immediate hazard to health or safety of County employees, property, or licensees, when caused by work of the Contractor that is not in accordance with the Contract requirements, the County may undertake at Contractor's expense and without prior notice, all work necessary to correct such hazardous condition(s).

14.1.7. With respect to all warranties, express or implied, from subcontractors, manufacturers, or suppliers for work performed and materials furnished under this Contract, the Contractor shall:

- a. Obtain all warranties that would be given in normal commercial practice;

- b. Require all warranties to be executed, in writing, for the benefit of the County, unless directed otherwise by the County; and
- c. Enforce all warranties for the benefit of the County, unless otherwise directed by the County.

14.1.8 This warranty shall not limit the County's rights under the Inspection and Acceptance section(s) of this Contract with respect to latent defects, gross mistakes, or fraud.

## **ARTICLE 15 ENVIRONMENTAL PROTECTION**

### **15.1 DUST CONTROL**

15.1.1 The Contractor shall provide any and all dust control required.

15.1.2 Whenever the Contractor is negligent in providing dust control, the County shall order the Contractor to provide such dust control. If the Contractor does not comply promptly with such order, the County shall have the authority to provide such dust control and charge the Contractor therefore by deducting the cost from progress payments to the Contractor as such costs are incurred by the County. The County shall not be held responsible for schedule delays due to actions taken by County to mitigate the failure of the Contractor in providing dust control.

### **15.2 EXCESSIVE NOISE**

15.2.1 The Contractor shall use only such equipment on the Work and in such state of repair, that the emission of sound therefrom is within the noise tolerance level of that equipment as established by CAL-OSHA.

15.2.2 Should the County determine that the muffling device on any equipment used on the Work is ineffective or defective so that the noise tolerance of such equipment is exceeded, such equipment shall not, after such determination by the County, be used on the Work until its muffling device is repaired or replaced so as to bring the noise tolerance level of such equipment within such standards.

### **15.3 POLLUTION CONTROL, CLEANING**

15.3.1 The Contractor shall not, in connection with the Work, discharge any smoke, dust, or other contaminants into the atmosphere which are in violation of South Coast Air Quality Management District standards or discharge any fluids or materials into any lake, river, stream, or channel as will violate regulations of State of California Water Resources Board. The Contractor shall control accumulation of waste materials and rubbish and dispose of waste materials and rubbish off-site at a minimum of weekly intervals. Burning of materials is not permitted.

## **ARTICLE 16 EMPLOYMENT PRACTICES**

### **16.1 QUALIFICATIONS FOR EMPLOYMENT AND APPRENTICESHIP STANDARDS**

16.1.1 In accordance with Section 1735 of the California Labor Code, no person under the age of 16 years and no person currently serving sentence in a penal or correctional institution shall be employed to perform any Work under this Contract. No person whose age or physical condition is such as to make his employment dangerous to his health or safety or to the health or safety of others shall be employed to perform Work under this Contract; provided that this requirement shall not operate against any physically handicapped persons otherwise employable where such persons may be safely assigned to Work which they ably perform.

- 16.1.2 This contract is subject to the provisions of Sections 1777.5 and 1777.6 of the California Labor Code concerning the employment of apprentices by the Contractor or any subcontractor under him. Section 1777.5 as amended, requires the Contractor or subcontractor employing tradesmen in any apprenticeable occupation to apply to the Joint Apprenticeship Committee nearest the site of this project and which administers the apprenticeship program in that trade for a certificate of approval. The certificate will also fix the ratio of apprentices to journeymen that will be used in the performance of the Contract.
- 16.1.3 The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if he employs registered apprentices or journeymen in any apprenticeable trade on such contracts and if other contractors on the public works site are making contributions.
- 16.1.4 All employees engaged in work on the project under this Contract shall have the right to organize and bargain collectively through representatives of their own choosing, and such employees shall be free from interference, restraint, and coercion of employers in the designation of such employees for the purpose of collective bargaining or other mutual aid or protection, and no person seeking employment under this Contract shall be required as a condition of initial or continued employment to join any company, union, or to refrain from joining, organizing, or assisting a labor organization of such person's own choosing. No person in the employment of the County shall be employed by this contractor.

## 16.2 WAGES & RECORDS

### 16.2.1 WAGE RATES

- a. Pursuant to Section 1770 and 1773 et seq. of the Labor Code of the State of California, the Director of Industrial Relations has ascertained the general prevailing rate of per diem wages and the rates for overtime and holiday work in the locality in which the work is to be performed for each craft, classification, or type of workman needed to execute the contract which will be awarded to the successful bidder, copies of which are on file and available upon request at the Clerk of the Board, Board of Supervisors, 4080 Lemon St., 14th Floor, Riverside, CA 92501-3655, and shall be posted at the job site.
- b. It shall be mandatory upon the Contractor and upon any subcontractor under him, to pay not less than the said specified rates to all laborers, workmen, and mechanics employed in the execution of the Contract. It is further expressly stipulated that the Contractor shall, as a penalty to County, forfeit twenty-five dollars (\$25.00) for each calendar day, or portion thereof, for each laborer, workman, or mechanic paid less than the stipulated prevailing rates for any work done under this Contract by him or by any subcontractor under him; and Contractor agrees to comply with all provisions of Section 1770 et. seq. of the Labor Code.
- c. In case it becomes necessary for the Contractor or any sub-contractor to employ on the project under this Contract any person in a trade or occupation (except executives, supervisory, administrative, clerical, or other non-manual workers as such) for which no minimum wage rate is herein specified, the Contractor shall immediately notify the County who will promptly thereafter determine the prevailing rate for such additional trade or occupation and shall furnish the Contractor with the minimum rate based thereon. The minimum rate thus furnished shall be applicable as a minimum for such trade or occupation from the time of the initial employment of the person affected and during the continuance of such employment.

- d. The County will not recognize any claim for additional compensation because of the payment by the Contractor of any wage rate in excess of the prevailing wage rate set forth as provided herein. The possibility of wage increases is one of the elements to be considered by the Contractor in determining his bid, and will not under any circumstances be considered as the basis of a claim against the County on the Contract.

## **16.2.2 WAGE RECORDS**

- a. The Contractor and each subcontractor shall keep or cause to be kept an accurate record (certified payroll) showing the names and occupations of all laborers, workers, and mechanics employed by him in connection with the execution of this Contract or any subcontract thereunder. The record shall show the actual per diem wages paid to each of said workers, which records shall be provided to the County, and to the Division of Labor Standards Enforcement upon its request. Copies provided will include one which has the name and social security numbers marked out.

## **16.3 NOTICE OF LABOR DISPUTES**

**16.3.1** If the Contractor has knowledge that any actual or potential labor dispute is delaying or threatens to delay the timely performance of this Contract, the Contractor shall immediately give notice, including all relevant information, to the County.

**16.3.2** The Contractor agrees to insert the substance of this clause, including this paragraph into any subcontract in which a labor dispute may delay the timely performance of this Contract; except that each subcontract shall provide that in the event its timely performance is delayed or threatened by delay by any actual or potential labor dispute, the subcontractor shall immediately notify the next higher tier subcontractor or the prime Contractor, as the case may be, of all relevant information concerning the dispute.

## **16.4 NONDISCRIMINATION**

### **16.4.1 EQUAL EMPLOYMENT OPPORTUNITY**

- a. Contractor agrees for the duration of this Contract that it will not discriminate against any employee or applicant for employment because of race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap. The Contractor will take affirmative action to insure that employees are treated during employment or training without regard to their race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap. Such action 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 in conspicuous places, available to employees and applicants for employment, notices to be provided setting forth the provisions of this nondiscrimination clause.
- b. The Contractor will in all solicitations or advertisements for employees placed by or on behalf of the Contractor, state that all qualified applicants will receive consideration for employment without regard to race, color, religion, sex, national origin, age, political affiliation, marital status, or handicap.
- c. The Contractor will send to each labor union or other representative of workers with which it



has a collective bargaining agreement or other contract or understanding, a notice advising the workers' representative of the Contractor commitments under this agreement.

- d. The Contractor agrees that it will comply with the provisions of Titles VI and VII of the Civil Rights Act, Revenue Sharing Act Title 31, U.S. Code Section 2716, and California Government Code Section 12990.
- e. The Contractor agrees that it will assist and cooperate with the County, the State of California and the United States Government in obtaining compliance with the equal opportunity clause, rules, regulations, and relevant orders of the State of California and United States Government issued pursuant to the Acts.
- f. In the event of the Contractor's non-compliance with the discrimination clause, the affirmative action plan of this contract, or with any of the said rules, regulations or orders, this Contract may be canceled, terminated, or suspended in whole or in part by the County.

#### **16.4.2 HANDICAPPED NON-DISCRIMINATION**

This project is subject to Section 504 of the Rehabilitation Act of 1973 as amended, (29 U.S.C. 794), and the Americans with Disabilities Act of 1990, as amended, and all requirements imposed by the guidelines and interpretations issued thereto. In this regard, the County and all of its contractors and subcontractors will take all reasonable steps to ensure that handicapped individuals have the maximum opportunity for the same level of aid, benefit or service as any other individual.

#### **16.4.3 FAIR EMPLOYMENT AND HOUSING ACT ADDENDUM**

In the performance of this Contract, the Contractor will not discriminate against any employee or Applicant for employment because of race, sex, color, religion, ancestry, or national origin. The Contractor will take affirmative action to ensure that applicants are employed, and that employees are treated during employment, without regard to their race, sex, color, religion, ancestry, or national origin. Such action shall include, but not limited to, the following: employment, upgrading, promotion, 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 shall post in conspicuous places, available to employees and applicants for employment, notices to be provided by the State or local agency setting forth the provisions of this Fair Employment and Housing Section.

#### **16.4.4 ACCESS TO RECORDS**

The Contractor will permit access to his records of employment, employment advertisements, application forms, and other pertinent data and records by the State Fair Employment and Housing Commission, or any other agency of the State of California designated by the awarding authority, for the purposes of investigation to ascertain compliance with the Fair Employment and Housing section of this Contract.

#### **16.4.5 REMEDIES FOR WILLFUL VIOLATION**

The State or local agency may determine a willful violation of the Fair Employment and Housing provision to have occurred upon receipt of a final judgment having that effect from a court in an action to which Contractor was a party, or upon receipt of a written notice from the Fair Employment and Housing Commission that it has investigated and determined that the Contractor has violated the Fair Employment and Housing Act and has

issued an order or obtained an injunction under Government Code Sections 12900, et seq.

## **ARTICLE 17    SUBCONTRACTING**

### **17.1    SUBCONTRACTORS**

- 17.1.1** A subcontractor is an individual, firm or corporation having a direct contract with the Contractor or with any other subcontractor for the performance of a part of the Work. In accordance with Section 4104 of the Public Contract Code, each Contractor, in his bid, shall include the name and location of each subcontractor who will perform work or labor, or render services to the Contractor in or about the Work in an amount in excess of one half of 1% of the Contractor's total bid.
- 17.1.2** The County reserves the right to approve all subcontractors. Such approval shall be a consideration to the awarding of the Contract and unless notification to the contrary is given to the Contractor prior to the signing of the Contract, the list of subcontractors which is submitted with his proposal will be deemed to be acceptable.
- 17.1.3** The Contractor shall be as fully responsible to the County for the acts and omissions of his subcontractors and of persons either directly or indirectly employed by them, as he is for the acts and omissions of persons directly employed by him.
- 17.1.4** Nothing contained in the Contract Documents shall create any contractual relationship between any subcontractor and the County.
- 17.1.5** The divisions or sections of the specifications are not intended to control the Contractor in dividing the Work among subcontractors or to limit the work performed by any trade.

### **17.2    RELATIONS OF CONTRACTOR AND SUBCONTRACTOR**

- 17.2.1** The Contractor agrees to bind every subcontractor by the terms of the Contract with the County, the General Conditions, Supplementary Conditions, and the drawings and specifications as far as applicable to his work, unless specifically noted to the contrary in a subcontract approved in writing as adequate by the County.

### **17.3    SUBCONTRACTS**

- 17.3.1** Pursuant to the provisions of Sections 4100 to 4114 of the California Public Contract Code, inclusive, the Contractor shall not, without the consent of the County, either:
- a.    Substitute any persons as subcontractors in place of the subcontractors designated in his original bid without the consent of County. (The County's consent can only be given in cases permitted by Public Contract Code Section 4107.)
  - b.    Permit any subcontract to be assigned or transferred or allow any work to be performed by anyone other than the original subcontractor listed in his bid.
  - c.    Sublet or subcontract any portion of the work in excess of one-half of one percent of his bid to which his original bid did not designate a subcontractor.

Should the Contractor violate any of the provisions of Sections 4100 to 4114, inclusive, of the Public Contract Code, his so doing shall be deemed a violation of this Contract, and the County may either cancel the contract, or assess the Contractor a penalty in the amount of not more than ten (10) percent of the amount of the

subcontract involved, or both.

## **ARTICLE 18    TAXES**

### **18.1    SALES AND PAYROLL TAXES**

**18.1.1** Each Contractor, subcontractor, and material dealer shall include in their bid all applicable taxes including but not limited to sales tax and payroll taxes required by law.

## **ARTICLE 19    CHANGES**

### **19.1    CHANGE ORDER WORK**

**19.1.1** The County reserves the right to make changes in the work without impairing the validity of the Contract. The County may make changes to the work, or suspend the work, and all such changes or suspension are within the contemplation of the parties and will not be a basis for compensable delay. Such changes may be made in accordance with any of the following methods:

- a. By written change order to the Contract ordered by the Board of Supervisors.
- b. By written change order, signed by the Assistant County Executive Officer/EDA, in the manner and amounts specified by Board Policy B-11.
- c. By written authorization, issued by the Assistant County Executive Officer/EDA, for items of work done under unit prices. The cost or credit for such added or omitted work shall be determined by multiplying the number of units added to or omitted from the work by the applicable unit price.

**19.1.2** Upon receipt of a proposed Change Order from County, the Contractor shall submit a proposal in accordance with the requirements and limitations set forth in this "Change Orders" article, for work involved in the contemplated change.

**19.1.3** The Contractor must submit a cost proposal within fifteen (15) calendar days after receipt of the proposed change order. The Contractor must submit cost proposals in less than fifteen (15) calendar days if requested by the County or if required by schedule limitations.

**19.1.4** If the Contractor fails to submit the cost proposal within the 15-day period (or as requested), the County has the right to order the Contractor in writing to commence the work immediately on a force account basis and/or issue a lump sum change to the contract price in accordance with the County's estimate of cost. If the change is issued based on the County estimate, the Contractor will waive his right to dispute the action unless within fifteen (15) calendar days following completion of the added/deleted work, the Contractor presents proof that the County's estimate was in error.

**19.1.5** If the County disagrees with the proposal submitted by Contractor, it will notify the Contractor in writing and the Contractor may elect to proceed under the DISPUTE article of this Contract, or, in the event either party contests the price or time extension of Change work, or time is of the essence, the County may issue a Construction Change Directive and the contractor shall proceed with the work. The County will provide its opinion of the appropriate price and/or time extension in a "Response to Change Order Request." If the contractor agrees with the County's estimate, a change order will be issued by the County. If no agreement can be reached, the County shall have the right to issue the Change Order Directive setting forth its unilateral

determination of the reasonable additions or savings in costs and time attributable to the extra or deleted work. Such determination shall become final and binding if the Contractor fails to submit a Claim in writing to the County, within twenty-one (21) days of the Change Order Directive, disputing the terms of such Directive. No dispute, disagreement or failure of the parties to reach agreement regarding the amount, if any, of any adjustment to the contract sum or contract time shall relieve the Contractor from the obligation to proceed with performance of the work, including extra work, promptly and expeditiously.”

- 19.1.6** The Contractor will give notice of a requested change on his letterhead within seven (7) calendar days of discovery and, if the County agrees, a proposed change order will be issued on the County's standard change order form.
- 19.1.7** If any change involves an increase or decrease in the cost of the Contractor's work, a change order shall state the amount to be added or deducted from the Contract amount, and the additional time, if any, needed for the performance of such work.
- 19.1.8** Any changes to the Contract amount shall be in a lump sum mutually agreed to by the Contractor and the County, except that when, in the opinion of the County, such basis is not feasible the change to the Contract amount shall be determined upon a cost-plus-percentage basis with a guaranteed maximum lump sum cost within the limitations provided by law.
- 19.1.9** Each lump sum quotation from the Contractor shall be accompanied by sufficiently detailed estimates to permit verification of totals in accordance with (a) through (d) in 19.1.11 below.
- 19.1.10** When the work is to be done on a cost-plus-percentage basis, the Contractor shall submit statements as required by the County showing all labor, material, and equipment costs incurred, and upon completion of the work, a summary of costs, including overhead and profit, and in accordance with Item (a) through (d) in 19.1.11 below.
- 19.1.11** Estimates for lump sum quotations and accounting for cost-plus-percentage work shall be limited to direct expenditures necessitated specifically by the subject extra work, and shall be segregated as follows:
- a. Labor. The costs of labor will be the actual cost for wages prevailing locally for each craft or type of worker at the time the extra work is done, plus employer payments of payroll taxes and insurance, health and welfare, pension, vacation, apprenticeship funds, and other direct costs resulting from Federal, State or local laws, as well as assessment or benefits required by lawful collective bargaining agreements. The use of a labor classification which would increase the extra work cost will not be permitted unless the contractor establishes the necessity for such additional costs. Labor costs for equipment operators and helpers shall be reported only when such costs are not included in the invoice for equipment rental.
  - b. Materials. The cost of materials reported shall be at invoice or lowest current price at which such materials are locally available in the quantities involved, plus sales tax, freight and delivery.
  - c. Tool and Equipment Use. No payment will be made for the use of tools which have a replacement value of \$100 or less. Regardless of ownership, the rates to be used in determining equipment use costs shall not exceed listed rates prevailing locally at equipment rental agencies, or distributors, at the time the work is performed.

- d. Overhead, Profit and Other Charges. The mark-up for overhead and profit on work added to the Contract shall be according to the following Schedule.
- (1) For work performed by the Contractor's forces the added cost for overhead and profit shall not exceed fifteen (15%) percent of the net cost of the work, equipment, labor and materials.
  - (2) For work performed by a subcontractor, the added cost for overhead and profit shall not exceed fifteen (15%) percent of the net cost of the work, equipment, labor and materials, to which the Contractor may add five (5) percent of the subcontractor's price of the work.
  - (3) For work performed by a sub-subcontractor the added cost for overhead and profit shall not exceed fifteen (15 %) percent of the net cost for work, equipment, labor and materials to which sub-contractor and general contractor may each add an additional five (5 %) percent of the total price from the lower tier subcontractor.
  - (4) "Net Cost" is defined as consisting of costs of labor, materials and equipment use and/or rental only. The costs of applicable insurance and bond premium will be reimbursed to the Contractor and subcontractors at cost only, without mark-up.
  - (5) The cost of direct supervision, except when provided by working foreman whose time is included above, of change order work when done exclusively, and not in conjunction or at the same time as, other work performed on the job and when approved in advance by the County's authorized representative, including only payroll taxes, insurance, pension and direct costs for the labor of supervision may be charged to the change order. The cost of transportation, use of vehicle and other costs incurred by supervision will not be allowed.

**19.1.12** For added or deducted work by subcontractors, the Contractor shall furnish to the County the subcontractor's signed detailed estimate of the cost of labor, material and equipment, including the markup by such subcontractor for overhead and profit. The same requirement shall apply to sub-subcontractors.

**19.1.13** For added or deducted work furnished by a vendor or supplier, the Contractor shall furnish to the County a detailed estimate or quotation of the cost to the Contractor for such work, signed by such vendor or supplier.

**19.1.14** Any change in the work involving both extras and credits shall show a new total cost, including subcontracts. Allowance for overhead and profit, as specified therein, shall be applied if the net total cost is an extra; overhead and profit allowances shall not be applied if the net total cost is a credit. The estimated cost of deductions shall be based on labor and material prices on the date the Contract was executed.

**19.1.15** The Contractor shall identify any adjustment in time of the final completion of the Work as a whole which is directly attributable to the changed work within fifteen (15) calendar days of receipt of the proposed change order. The Contractor's request for a change in time will be supported by a detailed schedule analysis including a schedule indicating the activities which have been affected and the additional time being requested.

- a. For a change in time for the Work, the Contractor shall be entitled only to such adjustments where completion of the entire Work (critical path) is delayed due to the performance of the changed work. Failure to request extra time when submitting such estimate shall constitute

waiver of the right to subsequently claim adjustment in time for final completion based upon such changed work.

- b. If the County and the Contractor fail to arrive at an agreement on the amount of extra cost, credit or time extension for a proposed change, a change order will be processed in the amount believed by the County to be reasonable, and the Contractor shall proceed with the work. If the Contractor believes that the amount or time stipulated in the change order is not reasonable for the work required, he may elect to issue a notification in accordance with the DISPUTES article for review by the County, stating therein the basis for his dispute with such change order.

**19.1.16** Any change in the Work shall conform to the original Contract Documents insofar as they may apply without conflict to the conditions involved in the change.

**19.1.17** Payment for additional work or extras, if any, shall become due and payable in accordance with the provisions for payment in the Contract.

**19.1.18** Contractor shall not reserve a right to assess impact cost, extended job site costs, extended overhead, and/or constructive acceleration at a later date as related to any and all changes. All costs or estimated costs must be supported with full schedule and cost documentation with each proposed change within the prescribed submission times. If a request for a change is denied and the Contractor disputes the denial, the Contractor must supply the aforementioned documentation to support his claim under the DISPUTES article of this Contract. No claims shall be allowed for impact, extended overhead costs, and/or construction acceleration due to the multiplicity of changes and/or clarifications. Any attempt by Contractor to change or modify the change order form (sample included herein) shall void the form, including any letters the Contractor may issue in conjunction therewith.

**19.1.19** All alterations, extensions of time, extra and additional work and other changes authorized by these specifications or any part of the Contract may be made without securing consent of the surety or sureties on the contract bonds.

## **19.2 CHANGE ORDERS AND LABOR RATES GUIDELINES**

**19.2.1** The following are guidelines for preparing change orders:

a. Labor Rates:

- (1) To establish the labor rate for each classification and trade, a breakdown shall be submitted to the County.
- (2) Labor rates are based on current prevailing state and federal wages. Only those benefits mandated by law or a valid labor contract are paid by the County.
- (3) Payroll taxes shall be paid as mandated by law. Labor related insurances shall be paid according to industry standard average.
- (4) No other costs related to labor shall be paid by County.

b. Change Orders:

- (1) Change orders shall be prepared in accordance with the project contract.
- (2) No insurance costs are paid by County, except for labor insurances specified in this guideline under section 1 titled "LABOR RATES".
- (3) Material cost shall be broken down on a separate sheet, and for those jobs designated as time and material shall be supported by valid invoices from suppliers.
- (4) Hours for non-productive labor, such as non-working foremen or general foremen, shall be paid only when justified in the opinion of the County, and approved by the County. The total number of nonproductive labor hours shall be limited to a maximum of 15% of the total number of productive labor hours.
- (5) Cost of use of special equipment shall be paid when justified in the opinion of the County, and approved by the County. Equipment refers to special equipment that is needed to perform that specific job, and does not include the usual tools customarily required for that trade. Small tools costs are not paid by County.
- (6) Material transportation costs are paid by County when justified in the opinion of the County, and approved by the County's authorized representative.
- (7) Overhead, profit and fees on subcontracts, are paid according to the contract.
- (8) No costs other than those designated above shall be paid by County. The percentages of overhead and fee allowed with change orders have been established to account for any other direct or indirect costs that might be incurred due to the change order.

### **19.3 AUDIT**

- 19.3.1** The County shall have the right to examine and audit all books, estimates, records, contracts, documents, bid documents, subcontracts, and other data of the Contractor (including computations and projections) related to negotiating, pricing, or performing the modification in order to evaluate the accuracy and completeness of the cost or pricing data at no additional cost to the County.
- 19.3.2** The Contractor shall make available at its office at all reasonable times the materials described in paragraph 19.3.1 above, for examination, audit, or reproduction, until 4 years after final payment under this Contract.
- 19.3.3** The Contractor shall insert a clause containing all the provisions of this 19.3, including this paragraph, in all subcontracts over \$10,000 under this contract.

## **ARTICLE 20 PAYMENT**

### **20.1 PROGRESS PAYMENTS**

- 20.1.1** The County shall pay the Contractor the price as provided in this Contract.
- 20.1.2** The County shall make progress payments monthly as the Work proceeds, on estimates approved by the County. The Contractor shall furnish a breakdown of the total contract price, in a format provided by the County, showing the amount included therein for each principal category of the work, in such detail as

requested, to provide a basis for determining progress payments.

- 20.1.3** Contractor shall submit to the County vouchers, schedule activities, or other satisfactory proof of the value of any work for which he claims payment on such account, and receipts showing that progress payments have been duly made on such contracts, and for materials furnished.
- 20.1.4** In the preparation of estimates, the County may authorize 75% of the value of material delivered and satisfactorily stored on the site, and preparatory work done to be taken into consideration for major equipment if:
- a. Consideration is specifically authorized by this Contract; and
  - b. The Contractor furnishes certified receipt that it has acquired title and paid invoices for such material and that the material will be used to perform this Contract.
- 20.1.5** On the 25th of each month the Contractor will submit his request for payment. Prior to that submittal the County will review the requested percentage of completion for each activity. The payment request will be in the format as provided by the County and will refer to the schedule.
- 20.1.6** Upon receipt of a payment request, the County shall:
- a. Review that request as soon as practicable after receipt for the purpose of determining that the payment request is a proper payment request; and
  - b. Any payment request determined not to be a proper request suitable for payment shall be returned to the Contractor as soon as practicable, but not later than seven (7) calendar days after receipt. The returned request for payment shall be accompanied by a document setting forth in writing the reasons why the payment request is not proper.
- 20.1.7** Any progress payment which is undisputed and properly submitted and remains unpaid for thirty (30) calendar days after receipt by County shall accrue interest to the Contractor equivalent to the legal rate set forth in subdivision (a) of Section 685.010 of the California Code of Civil Procedure. The number of days available to the County to make a payment without incurring interest pursuant to this section shall be reduced by the number of days by which the County exceeds the seven-day return requirement set forth in 20.1.6 above.
- 20.1.8** In making these progress payments, there shall be retained ten percent (10%) from the amount of each progress payment until the work is 50% complete. After the 50% completion point, if satisfactory progress is being made and at the sole discretion of the County, the retention may be reduced to a minimum of 5% of the contract.
- 20.1.9** Except as otherwise prohibited by law, the Contractor may elect to receive all payments due under the contract pursuant to this section without any retention, by posting securities in accordance with Public Contract Code Section 22300.
- 20.1.10** Contractor and each subcontractor shall pay each of its employees engaged in work under this Contract in full (less deductions made mandatory by law) in accordance with California law.
- 20.1.11** The County may withhold (in excess of retentions) or, on account of subsequently discovered evidence, nullify the whole or a part of any certificate to such extent as may be necessary to protect the County from loss on



account of:

- a. Defective work not remedied.
- b. Claims filed or reasonable evidence indicating probable filing of claims.
- c. Failure of the Contractor to make payments properly to subcontractors or for material or labor.
- d. Damage to another Contractor.
- e. Delays in progress toward completion of the work, with the stipulated amount of liquidated damages being withheld for each day of delay for which no extension is granted.
- f. Default of the Contractor in the performance of the terms of the Contract.

**20.1.12** Should stop notices be filed with the County, County shall withhold the amount required plus 25% from certificates until such claims shall have been resolved pursuant to applicable law. California Civil Code Section 3179 et seq.

**20.1.13** At the election of the County, Contractor shall provide, within ten (10) calendar days of receipt of each progress payment, unconditional waivers and release of lien rights, signed by Contractor and each of its subcontractors and materials suppliers, in the form established therefore by Section 3262 of the Civil Code.

**20.1.14** All material and work covered by progress payments made shall, at the time of payment, become the sole property of the County, but this shall not be construed as:

- a. An acceptance of any work not in accordance with the Contract Documents; or
- b. Waiving the right of the County to require the fulfillment of all of the terms of the contract.

## **20.2 FINAL PAYMENT**

### **20.2.1 GENERAL**

- a. The County shall pay the amount due the Contractor under this Contract after:
  - 1.) The Acceptance of all work and Notice of Completion per the terms of this Contract;
  - 2.) Presentation of a properly executed voucher;
  - 3.) Release of all liens and Stop Notices; and
  - 4.) Presentation of release of all claims against the County arising by virtue of this Contract, other than claims and disputes in stated amounts, that the Contractor has specifically excepted from the operation of the release.
- b. The Contractor may, if any subcontractor refuses to furnish a release or receipt in full,

furnish a bond satisfactory to the County, to indemnify him against any lien.

#### **20.2.2 FINAL CERTIFICATE FOR PAYMENT**

- a. When the work is ready for acceptance by the County, the Economic Development Agency will certify and submit to the Board of Supervisors a Notice of Completion. Upon approval of the Notice of Completion, a copy will be sent to the Contractor.
- b. Notice of Completion will be recorded by the County upon completion and Acceptance of the Work. Providing no stop notices have been filed, thirty-five (35) calendar days after filing of such Notice of Completion, payment due under the contract will become due to the Contractor and the County shall so certify authorizing the final payment.

#### **20.2.3 FINAL PAYMENT**

- a. After Acceptance of Work, the County will submit to Contractor a statement of the sum due Contractor under this contract, together with County payment in the amount thereof. Said statement shall take into account the contract price, as adjusted by any change orders; amounts already paid; sums to be withheld for incomplete work; liquidated damages; and for any other cause under the Contract.
- b. The Contractor shall, from the effective date of Acceptance until the expiration of four years after final settlement under this Contract, preserve and make available to the County, all its books, records, documents, and other evidence bearing on the costs and expenses of the Contractor under this Contract.

### **ARTICLE 21 SUSPENSION OF WORK/TERMINATION**

#### **21.1 NON-COMPLIANCE WITH CONTRACT REQUIREMENTS**

**21.1.1** In the event the Contractor, after receiving written notice from the County of non-compliance with any requirement of this Contract, fails to promptly initiate appropriate action to comply with the specified requirement, the County shall have the right to withhold payment for work completed under the Contract until the Contractor has complied with the notice or has initiated such action as may be appropriate to comply, within a reasonable period of time. The Contractor shall not be entitled to any extension of contract time or payment for any costs incurred for work under this article.

**21.1.2** Should the Contractor abandon the Work called for under the Contract, or assign his Contract, or unnecessarily and unreasonably delay the work, or willfully violate or perform the work in bad faith, the County shall have the power to notify the Contractor to discontinue all work or any part thereof under this Contract, and thereupon the Contractor shall cease to continue said work or such part thereof as the County may designate, and the County shall have the power to employ such persons as it may consider desirable, and to obtain by contract, purchase, hire or otherwise, such implements, tools, material or materials as the County may deem advisable to work at and be used to complete the work herein described, or such part thereof as shall have not been completed, and to use such material as it may find upon the site of the work, and to charge the expense of such labor and material, implements and tools to the Contractor, and the expense so charged shall be deducted and paid by the County out of such monies as may either be due, or may at any time thereafter become due to the Contractor under the Contract.

#### **21.2 TERMINATION**

### 21.2.1 TERMINATION FOR BREACH

If the Contractor should be adjudged bankrupt or if he should make a general assignment for the benefit of his creditors, or if a receiver should be appointed on account of his insolvency, or if he or any of his subcontractors should violate any of the provisions of the Contract, the County may serve written notice upon him and his surety of its intention to terminate Contractor's performance hereunder, said notice shall contain the reasons for such intention to terminate Contractor's performance, and, unless within ten (10) calendar days after serving of said notice, such violation shall cease and satisfactory arrangements for correction thereof be made, Contractor's performance shall, upon the expiration of said ten (10) calendar days, cease and terminate. In the event of any such termination, the County shall immediately serve written notice thereof upon the surety and the Contractor, and the County may take over the Contractor's work and prosecute the same to completion by contract or by any other method it may deem advisable, for the account and at the expense of the Contractor, and the Contractor and his surety shall be liable to the County for any excess cost occasioned the County thereby, and in such event the County may without liability for so doing take possession of and utilize in completing the work, such materials, appliances, plants, and other property belonging to the Contractor as may be on the site of the work and necessary therefore.

### 21.2.2 TERMINATION FOR CONVENIENCE

- a. If the construction of the project herein is damaged, which damage is determined to have been proximately caused by an Act of God, in excess of 5% of the contract amount, provided that the work damaged is built in accordance with applicable building standards and the plans and specifications, then the County may, without prejudice to any other right or remedy, terminate the Contract.
- b. The County may terminate performance of work under this Contract in whole or in part, if the County determines that a termination is in the County's interest. The County shall terminate by delivering to the Contractor a Notice to Terminate specifying the extent of termination and the effective date.
- c. After receipt of such Notice, and except as directed by the County, the Contractor shall immediately proceed with the following obligations, regardless of any delay in determining or adjusting any amounts due under this clause:
  - (1) Stop work as specified in the notice.
  - (2) Place no further subcontracts or orders (referred to as subcontracts in this clause) for materials, services, or facilities, except as necessary to complete any continued portion of the Contract.
  - (3) To terminate all subcontracts to the extent they relate to the work terminated.
  - (4) With approval or ratification to the extent required by the County, settle all outstanding liabilities and termination settlement proposals arising from termination of subcontracts; the approval or ratification will be final for purposes of this clause.
  - (5) As directed by the County, transfer title and deliver to the County (1) the fabricated

or unfabricated parts; work in progress, completed work, supplies, and other material produced or acquired for the work terminated; and (2) the completed or partially completed plans, drawings, information, and other property that, if the contract had been completed, would be required to be furnished to the County.

- (6) Complete performance of work not terminated.
  - (7) Take any action that may be necessary, or that the County may direct, for the protection and preservation of the property related to this contract that is in the possession of the Contractor and in which the County has or may acquire an interest.
  - (8) Use its best efforts to sell, as directed or authorized by the County, any property of the types referred to in subparagraphs above; provided, however, that the Contractor (1) is not required to extend credit to any purchaser and (2) may acquire the property under the conditions prescribed by, and at prices approved by the County. The proceeds of any transfer or disposition will be applied to reduce any payments to be made by the County under this contract, credited to the price or cost of the work, or paid in any other manner directed by the County.
- d. After termination, the Contractor shall submit a final termination settlement proposal to the County in the form and with the certification prescribed by the County. The Contractor shall submit the proposal promptly, but no later than thirty (30) days from the effective date of termination. If the Contractor fails to submit the proposal within the time allowed, the County may determine, on the basis of information available, the amount, if any, due the Contractor because of the termination and shall pay the amount determined.
- e. Subject to subparagraph (2) above, the Contractor and the County may agree upon the whole or any part of the amount to be paid because of the termination. The amount may include a reasonable allowance for profit on work done. However, the agreed amount, may not exceed the total contract price as reduced by:
- (1) the amount of payments previously made and;
  - (2) the contract price of work not terminated. The contract shall be amended with a Change Order, and the Contractor paid the agreed amount.
- f. If the Contractor and County fail to agree on the whole amount to be paid the Contractor because of the termination of work, the County shall pay the Contractor the amounts determined as follows:
- (1) For contract work performed before the effective date of termination, the total (without duplication of any terms) of:
    - (i) The cost of this work;
    - (ii) The cost of settling and paying termination settlement proposals under terminated subcontracts that are properly chargeable to the terminated portion of the contract if not included in subdivision (i) above; and

- (iii) A sum, as profit on (i) above, determined by the County to be fair and reasonable; however, if it appears that the Contractor would have sustained a loss on the entire contract had it been completed, the County shall allow no profit under this subdivision (iii).
  - (2) The reasonable costs of settlement of the work terminated including:
    - (i) Accounting, clerical, and other expenses reasonably necessary for the preparation of termination settlement proposals and supporting data; and
    - (ii) Storage, transportation, and other costs incurred, reasonably necessary for the preservation, protection, or disposition of the termination inventory.
- g. Except for normal spoilage, the County shall exclude from the amounts payable to the Contractor the fair value, as determined by the County, of defective work, and of property that is destroyed, lost, stolen, or damaged so as to become undeliverable.
- h. The Contractor shall have the right to make a claim under the DISPUTES article, from any determination made by the County.
- i. In arriving at the amount due the Contractor, there shall be deducted:
  - (1) All unliquidated advance or other payments to the Contractor under the terminated portion of this Contract;
  - (2) Any claim which the County has against the Contractor under this Contract; and
  - (3) The agreed price for, or the proceeds of sale of, materials, supplies, or other things acquired by the Contractor or sold under the provisions of this clause and not recovered by or credited to the County.
- j. If the termination is partial, the Contractor may file a proposal with the County for a Change Order of the price(s) of the continued portion of the Contract. The County shall process any Change Order agreed upon. Any proposal by the Contractor for an equitable adjustment under this clause shall be requested within thirty (30) days from the effective date of termination unless extended in writing by the County.
- k. The County may, under the terms and conditions it prescribes, make partial payments and payments against costs incurred by the Contractor for the terminated portion of the Contract, if the County believes the total of these payments will not exceed the amount to which the Contractor will be entitled. If the total payments exceed the amount finally determined to be due, the Contractor shall repay the excess to the County upon demand, together with interest.
  - l. Unless otherwise provided in this Contract or by statute, the Contractor will maintain all records and documents relating to the terminated portion of this Contract for 4 years after final settlement. This includes all books and other evidence bearing on the Contractor's costs and expenses under this Contract. The Contractor shall make these records and documents available to the County, State and/or the U.S. Government or their representatives at all reasonable times, without any direct charge.

## **ARTICLE 22    DISPUTES/CLAIMS**

### **22.1    CLAIMS RESOLUTION**

In accordance with Public Contract Code Sections 20104 20104.6 and other applicable law, public works claims of \$375,000 or less which arise between the Contractor and the Owner shall be resolved under the following the statutory procedure unless the Owner has elected to resolve the dispute pursuant to Public Contract Code Section 10240 et seq.

- a. All claims shall be submitted in writing and accompanied by substantiating documentation. Claims must be filed on or before the date of final payment unless other notice requirements are provided in the contract. "Claim" means a separate demand by the claimant for (1) a time extension, (2) payment of money or damages arising from work done by or on behalf of the claimant and payment of which is not otherwise expressly provided for or the claimant is not otherwise entitled, or (3) an amount the payment of which is disputed by the Owner.
- b. Claims Under \$50,000. The Owner shall respond in writing to the claim within 45 days of receipt of the claim, or, the Owner may request, in writing, within 30 days of receipt of the claim, any additional documentation supporting the claim or relating to defenses or claims the Owner may have. Of additional information is needed thereafter, it shall be provided upon mutual agreement of the Owner and the claimant. The Owner's written response shall be submitted 15 days after receiving the additional documentation, or within the same period of time taken by the claimant to produce the additional information, whichever is greater.
- c. Claims over \$50,000 but less than or equal to \$375,000. The Owner shall respond in writing within 60 days of receipt, or, may request in writing within 30 days of receipt of the claim, any additional documents supporting the claim or relating to defenses or claims the Owner may have against the claimant. If additional information is needed thereafter, it shall be provided pursuant to mutual agreement between the Owner and the claimant. The Owner's response shall be submitted within 30 days after receipt of the further documents, or within the same period of time taken by the claimant to produce the additional information or documents, whichever is greater. The Contractor shall make these records and documents available to the County, State and/or the U.S. Government or their representatives at all reasonable times, without any direct charge.
- d. If the claimant disputes the Owner's response, or if the Owner fails to respond within the statutory time period(s), the claimant may so notify the Owner within 15 days of the receipt of the response or the failure to respond, and demand an informal conference to meet and confer for settlement. Upon such demand, the Owner shall schedule a meet and confer conference within 30 days.
- e. If following the meet and confer conference, the claim or any portion thereof remains in dispute, the claimant may file a claim pursuant to Government Code 900 et seq. and Government Code 910 et seq. For purposes of those provisions, the time within which a claim must be filed shall be tolled from the time the claimant submits the written claim until the time the claim is denied, including any time utilized for the meet and confer conference.
- f. If a civil action is filed to resolve any claim, the provisions of Public Contract Code 20104.4

shall be followed, providing for nonbinding mediation and judicial arbitration.

## **22.2 CLAIM FORMAT/REQUIREMENTS**

**22.2.1** The Contractor will submit the claim justification in the following format:

- a. Summary of claim merit and price plus clause under which the claim is made.
- b. List of documents relating to claim
  - (a) Specifications
  - (b) Drawings
  - (c) Clarifications (RFIS)
  - (d) Schedules
  - (e) Other
- c. Chronology of events and correspondence
- d. Analysis of claim merit
- e. Analysis of claim cost
- f. Analysis of Time in CPM format
- g. Cover letter and certification (form included herein)

**22.2.2** If any claim submitted includes a request for overhead, the County may request a Profit & Loss statement and supporting documentation from Contractor. If requested, such documentation must be submitted for the County to consider the claim.

**22.2.3** Submission of a claim, properly certified, with all required supporting documentation, and written rejection or denial of all or part of the claim by County, is a condition precedent to any action, proceeding, litigation, suit, general conditions claim, or demand for arbitration by Contractor.

## **22.3 NOTICE OF THIRD PARTY CLAIMS**

The County shall provide notification to the Contractor within a reasonable time after receipt of any third-party claim relating to the Construction Contract.

**SECTION 01025**

**ALTERNATES**

**PART 1 -- GENERAL**

**1.01 SUMMARY**

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

**1.02 DESCRIPTION**

- A. Work Included: Provide alternative bid proposals as described in this Section.
- B. Procedures:
  - 1. Provide alternative proposals to be added to or deducted from the amount of the Base Bid if the Owner accepts the corresponding change in scope.
  - 2. Include within the alternative bid prices all costs, including labor, materials, installations, and fees.
  - 3. Show the proposed alternative amounts opposite their proper description on the Contractor's Proposal.
- C. Acceptance or Rejection:
  - 1. Acceptance or rejection of Alternate Bids is subject to Owner's discretion. The Owner reserves the right to award any or none of the Alternate Proposal items as the Owner may deem to be in its best interests and without regard to the order in which such items are listed in the Proposal.

**\*\*\* END OF SECTION \*\*\***



This page is intentionally blank

**SECTION 01049**  
**SUPPORTING FROM STRUCTURE**

**PART 1 -- GENERAL**

**1.01 SUMMARY**

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

**1.02 SCOPE**

Work Included:

1. This section provides guidelines and limitations for supporting all mechanical, electrical, plumbing or architectural items from the building structure, and for seismic bracing for all such items.
2. Design and install all support and bracing systems except as noted. Provide for attachment to portions of the building structure capable of bearing the loads imposed. Design systems to not overstress the building structure.

Work Not Included:

1. The Contractor is not required to design support and bracing for items for which the contract documents provide specific attachment, support, and bracing. Items specifically noted in the CBC as not requiring bracing may be exempt from seismic bracing if all conditions of attachment in the CBC are compliant. Seismic bracing is not typically required for the following items:
  - a. Gas piping less than 1 inch inside diameter.
  - b. Piping for boilers and mechanical equipment less than 1.25 inches inside diameter.
  - c. All other piping less than 2.5 inches inside diameter, unless racked together.
  - d. All piping and duct suspended by individual hangers 12 inches or less in length with flexible connections.
  - e. All rectangular air handling ducts less than 6 square feet in cross sectional area.
  - f. All round air handling ducts less than 28 inches in diameter.
  - g. All electrical conduits less than 2.5 inches inside diameter, unless racked together.

**1.03 RELATED WORK (See also Table of Contents)**

Information relating solely to mechanical or electrical work is included under those divisions, except as specifically indicated herein.

**1.04 SUBSTITUTIONS**

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

**1.05 QUALITY ASSURANCE**

A. General:

1. Design and install all support systems to comply with the requirements of the 2007 California Building Code Chapter 16.

2. For seismic bracing design engage the services of a structural engineer licensed in California.
  3. For guidelines regarding seismic bracing for mechanical, electrical and plumbing systems, refer to the Sheet Metal and Air Conditioning Contractors National Association, Inc. (SMACNA), "Guidelines for Seismic Restraints of Mechanical Systems and Plumbing Piping Systems". Where SMACNA guidelines deviate from CBC requirements, CBC requirements shall govern
- B. Standards and References: (Latest Edition unless specified otherwise)
1. The General Conditions, Supplementary Conditions, and applicable portions of Division 1 apply to the work of this Section as if printed herein.
  2. If the year of the adoption or latest revision is omitted from the designation, it shall mean the specification, manual or test designation in effect the date of Notice to Proceed with the Work given.
- C. Submittals: (In accordance with Article 5 of the General Conditions, Project Manual Section 00700):
1. Submit shop drawings for all substructures and attachment methods.
  2. Submit proposed alternative methods of attachment for review by the Architect, prior to deviating from the requirements given below.
  3. For all seismic bracing systems, submit structural calculations and details prepared and signed by the Contractor's licensed engineer which include all resultant forces applied to the building structure. Do not overstress building structure. Calculations will be reviewed for compliance with design criteria, not for arithmetic.

## **PART 2 -- PRODUCTS**

### **2.01 MATERIALS**

- A. Furnish all substructures and fasteners required to comply with the limitations given below. Use materials as specified in the various sections and as appropriate to the use.
- B. All exterior materials: hot dipped galvanized or stainless steel.

## **PART 3 -- EXECUTION**

### **3.01 GUIDELINES AND LIMITATIONS**

- A. The General Contractor shall coordinate the load requirements from all sub-contractors so that no combination of loads exceeds the limitations given below without written approval.
- B. Maximum Loading: Attach no loads greater than the following without specific approval of the Structural Engineer.
  1. Metal deck without concrete fill - acoustical tile and gypsum board ceilings only; no piping, ducting or conduit. Maximum ceiling weight - 3.5 psf. Maximum wire hanger load = 60#.
  2. Metal deck with concrete fill - ceilings as indicated for metal deck without concrete fill above, plus electrical conduits, gas piping and ducting not exceeding 3.0 psf. Maximum point load from trapeze = 200 lbs. at 8'-0" cc each way. Mechanical units hung from concrete filled deck shall not exceed 500 lbs.
  3. Steel beams and girders: water and gas piping, electrical conduits, ducting and trapeze of same not to exceed 3.0 psf. Maximum load on a single span = 600#.

Mechanical units hung from beams shall not exceed 1000# unless specifically indicated on structural plans.

4. Cast-In-Place concrete slabs - ceilings, piping, conduit and ducts shall not exceed 10 psf. Maximum hanger load 600#. Mechanical units hung from slabs shall not exceed 800#.
5. Wood sawn joists - loads from ceilings, piping, conduit and ducting shall not exceed 5.0 psf. Maximum concentrated load = 300 lbs. per joist.
6. Steel Joists - Loads from ceiling, piping, conduit and ducting shall not exceed 8 psf. Maximum concentrated load = 500 lbs. per joist.

### 3.02 SEISMIC BRACING

- A. In applying formulas from Chapter 16 of the 2007 CBC the value for  $I_p$  (importance factor) shall be assumed to be no less than 1.0. See structural drawings for other seismic factors.
- B. Design and install seismic bracing so as not to ground out vibration and sound isolation items.

**\*\*\*END OF SECTION\*\*\***

This page is intentionally blank

**SECTION 01200**  
**PROJECT MEETINGS**

**PART 1 -- GENERAL**

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 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. 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.

1.03 QUALITY ASSURANCE

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.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

1.05 SUBMITTALS

- A. In accordance with Article 5 of the General Conditions, Project Manual Section 00700.
- B. 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.
- C. Minutes:
  - 1. The Architect will compile minutes of each project meeting, and will furnish copies to the Contractor and to the Owner.
  - 2. Recipients of copies may make and distribute such other copies as they wish.

**PART 2 -- PRODUCTS**

(No products are required in this Section.)

**PART 3 -- EXECUTION**

3.01 MEETING SCHEDULE

- A. Progress Review Meetings will be held every other week, except for the Pre-Construction Meeting, which will occur as described below. Additional meetings will be held as needed in order to accomplish the Project Schedule.
- B. Progress Review Group will coordinate as necessary to establish mutually acceptable schedule for meetings.

3.02 MEETING LOCATION

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

### 3.03 PRE-CONSTRUCTION MEETING

- A. A Pre-Construction Meeting will 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 communication.
  - 3. Construction schedule, including sequence of critical work. (To be presented by Contractor)
  - 4. Contract Documents, including distribution of required copies of original Documents and revisions.
  - 5. Processing of Shop Drawings and Submittals to the Architect.
  - 6. Processing of Requests For Information (RFI's).
  - 7. Processing of Requests for Proposal, field decisions, and Change Orders.
  - 8. Rules and regulations governing performance of the work.
  - 9. Procedures for safety and first aid, security, quality control, housekeeping, and related matters.
  - 10. Format and procedures for submitting "Application and Certificate for Payment" and "Schedule of Values" forms.

### 3.04 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, revise as necessary, and approve minutes of previous meetings.
  - 2. Review progress of the Work since last meeting, including status of submittals for review.
  - 3. Identify problems that will impede planned progress.
  - 4. Develop corrective measures and procedures to regain planned schedule.
  - 5. Complete other current business.
- C. Revisions to minutes:
  - 1. Unless published minutes are challenged in writing prior to the next regularly schedule progress meeting, they will be accepted as properly stating the activities and decisions of the meeting.

2. Persons challenging published minutes shall reproduce and distribute copies of the challenge to all indicated recipients of the particular set of minutes.
3. Challenge to minutes shall be settled as priority portion of "old business" at the next regularly scheduled meeting.

**\*\*\* END OF SECTION \*\*\***



This page is intentionally blank

**SECTION 01350**  
**LIST OF REQUIRED SUBMITTALS**

**PART 1 -- GENERAL**

1.01 SCOPE OF WORK

- A. Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.
- B. Submit Shop Drawings, Product Data, Samples and other information according to Article 5 – Shop Drawings & Submittals of the General Conditions.
- C. Provide specific information according to the requirements of each Specification Section.

1.02 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

1.03 SUBMITTALS

In accordance with Article 5 of the General Conditions, Project Manual Section 00700.

1.04 SUBMITTAL RESPONSE

- 1 = No Exception taken
- 2 = Approved as Noted
- 3 = Revise & Resubmit
- 4 = Submit Specified Item
- 5 = Rejected

SECTION #	SECTION NAME	RECEIVED	RETURNED	RESPONSE
02070	Selective Demolition & Reconstruction			
02510	Asphalt Paving			
02550	Site Concrete Work			
03100	Concrete Formwork			
03210	Concrete Reinforcement			
03300	Cast-in-Place Concrete			
03320	Concrete Sealers			
03345	Concrete Finishing			
04100	Mortar and Grout			
04200	Reinforced Unit Masonry System			
05120	Structural Steel			
05410	Metal Stud Framing			
05500	Metal Fabrications			
06410	Custom Casework			
06600	Plastic Surfacing Materials			
07210	Thermal Insulation			
07500	Membrane Roofing			
07550	Standing Seam Metal Roofing			
07600	Flashing & Sheet Metal			
07840	Fire Stopping			
07900	Caulking & Sealants			

SECTION #	SECTION NAME	RECEIVED	RETURNED	RESPONSE
08100	Metal Doors & Frames			
08200	Wood Doors & Frames			
08500	Aluminum Windows			
08800	Glazing			
09200	Lath & Plaster			
09250	Gypsum Board Systems			
09300	Tilework			
09510	Acoustical Ceiling Tile			
09650	Resilient Flooring			
09680	Carpet			
09720	Fabric Wall Panels			
09900	Painting Frazee			
10100	Projection Screens			
10120	Tackboards and Chalkboards			
10155	Solid Polymer Toilet Partitions			
10400	Identifying Devices			
10500	Metal Lockers			
10520	Fire Protection Specialties			
10800	Toilet & Bath Accessories			
11027	Knox Boxes			
11450	Residential Appliances			
12500	Window Treatment			
13850	Security Systems			
15300	Automatic Fire Protection System			
15400	Plumbing			
15600	Heating, Ventilating and Air Conditioning			
16000	Electrical Work			
16721	Fire Alarm System			

\*\*\*END OF SECTION\*\*\*

**SECTION 01410**  
**TESTING LABORATORY SERVICES**

**PART 1 -- GENERAL**

1.01 SUMMARY

Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.

1.02 DESCRIPTION

A. Work Included:

1. Cooperate with the Owner's selected testing agency and all others responsible for testing and inspecting the Work.
2. The Contractor shall provide other testing and inspecting as in this Section and/or elsewhere in the Contract Documents.

B. Related Work:

1. Requirements for testing may be described in other Sections of the Project Manual.
2. Where no testing requirements are described, but the Owner decides that testing is required, the Owner may require the testing to be performed under current pertinent standards. Payment for 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. Payment for initial testing: The Owner will pay for all initial services of the testing laboratory except as further described in Article 2.01 of this Section.

1.03 QUALITY ASSURANCE

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

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

1.05 SUBMITTALS

In accordance with Article 5 of the General Conditions, Project Manual Section 00700.

**PART 2 -- PRODUCTS**

2.01 PAYMENTS FOR TESTING INVOLVING NON-COMPLIANCE

When initial tests indicate non-compliance with the Contract Documents, the costs of initial tests as well as costs of subsequent retesting occasioned by the non-compliance will be paid by the Owner and the amount deducted from the Contract Sum.

2.02 SPECIFIC TESTS AND INSPECTIONS

- A. Provide all tests and inspections required by the 2007 California Building Code, required by provisions of the Contract Documents, and such other tests and inspections as are dictated by the Architect.
- B. Tests include, but are not necessarily limited to, those described in detail in Part 3 of this Section.

## **PART 3 -- EXECUTION**

### **3.01 TAKING SPECIMENS**

The testing personnel, unless otherwise provided in the Contract Documents, shall take all specimens and samples for testing. The testing laboratory will provide all sampling equipment and personnel. The testing laboratory will perform all deliveries of specimens and samples to the testing laboratory.

### **3.02 COOPERATION WITH TESTING LABORATORY**

Provide 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.

### **3.03 OWNER NOTIFICATION**

- A. The Contractor shall notify the Owner's representative a sufficient time in advance of the manufacture of material to be supplied by him under the Contract Documents, which must be tested according to the terms of the Contract, in order that the Owner may arrange for the testing of same at the source of supply.
- B. Any material shipped by the Contractor from the source of supply prior to having satisfactorily passed such testing and inspection or prior to the receipt of notice from said representative that such testing and inspection will not be required and shall not be incorporated in the job.

### **3.04 TEST REPORTS**

A copy of all test reports shall be forwarded to both the Owner and the Architect by the testing agency. Such reports shall include all tests made, regardless of whether such tests indicate that the material is satisfactory or unsatisfactory. Samples taken but not tested shall also be reported. Records of special sampling operations as required shall also be reported. The reports shall show that the material or materials were sampled and tested in accordance with the requirements of California Building Code and with the approved specifications. Test reports shall show the specified design strength. They shall also state definitely whether or not the material or materials tested comply with requirements of the Contract Documents.

### **3.05 SOIL INSPECTING AND TESTING**

- A. Make required inspections and tests including, but not limited to:
  - 1. Visually inspect on-site and imported fill and backfill, making such tests and retests as are necessary to determine compliance with the Contract requirements and suitability for the proposed purpose.
  - 2. Make field density tests on samples from in-place material as required.
  - 3. As pertinent, inspect and test the scarifying and recompacting of cleaned subgrade; inspect the progress of excavating, filling, and grading; make 90% density tests at fills and backfills; and verify compliance with provisions of the Contract Documents and governmental agencies having jurisdiction.
- B. Make and distribute necessary reports and certificates.

### **3.06 CONCRETE TESTING AND INSPECTIONS**

- A. General: Concrete testing and inspection shall comply with Chapter 19 requirements for "Testing and Inspection," CBC, Current Edition.
- B. Portland cement:
1. Secure from the cement manufacturer Certificates of Compliance delivered directly to the concrete producer for further delivery directly to the testing laboratory.
  2. Require the Certificates of Compliance to positively identify the cement as to production lot, bin or silo number, dating and routing of shipment, and compliance with specified standards.
  3. If so required by the Architect, promptly provide such other specific physical and chemical data as requested.
  4. One sample shall be taken for each 100 tons of cement except that when used in bulk loading ready-mix plants where separate bins for pre-tested cement are not available, grab samples shall be taken for each shipment of cement placed in the bin with not less than one sample being taken for each day's pour and such samples shall be subsequently tested if required by the Architect, Structural Engineer (or the Office of the State Architect.)
- C. Aggregate:
1. Provide on test unless character of material changes, material is substituted, or additional test as requested by the Architect.
  2. Sample from conveyor belts or batching gates at the ready-mix plant:
    - a. Sieve analysis to determine compliance with specified standards and grading;
    - b. Specific gravity test for compliance with specified standards.
- D. Laboratory design mix:
1. Laboratory design mix shall comply with Structural Engineers requirements as stated in Section 02550 and 03300 as found in these specifications.
  2. After acceptance of aggregate, and whenever character or source of materials is changed, provide mix design in accordance with ACI 613.
  3. Provide designs for all mixes prepared by a licensed Civil Engineer registered in the State of California.
- E. Molded concrete cylinders:
1. Provide three test cylinders for each 50 cubic yards, or fraction thereof, of each class of concrete of each day's placement.
  2. Test one cylinder at seven days, one at 28 days, and one when so directed.
  3. Report the mix, slump, gage, location of concrete in the structure, and test results.
  4. Take specimens and make tests in accordance with the applicable ASTM standard specifications.
- F. Core tests:
1. Provide only when specifically so directed by the Architect because of low cylinder test results.
  2. Cut from locations directed by the Architect, securing in accordance with ASTM C42, and prepare and test in accordance with ASTM C39.

3. Cores shall be of a diameter determined by the Testing Laboratory but no less than 4" in diameter.

G. Placement inspections:

1. The Owner's Inspector shall inspect placement of concrete.
2. Throughout progress of concrete placement, make slump tests to verify conformance with specified slump.
3. Using all required personnel and equipment, throughout progress of concrete placement verify that finished concrete surfaces will have the level or slope that is required by the Contract Documents.
4. A project record shall be kept on the time and date of placing concrete in each portion of the structure. Such record shall be kept until the completion of the structure and shall be open to inspection by the Owner and his Representatives.

H. Batch plant inspections:

1. The quality and quantity of materials used in transit mixed concrete and in batched aggregate shall be continuously inspected at the location where materials are measured by a specifically approved inspector.

3.07 MORTAR AND GROUT TESTS

- A. General: Mortar and grouts tests shall comply with Chapter 21 requirements of the CBC, Current Edition, for "Tests and Inspections."
- B. At the beginning of all masonry work, at least one test sample of the mortar and grout shall be taken on three successive working days and at least one-week intervals thereafter. The samples shall be continuously stored in moist air until tested. They shall meet the minimum strength requirement given in Section 04100 of these Specifications.
- C. Additional samples shall be taken whenever any change in materials or job conditions occur, or whenever in the judgment of the Architect, Structural Engineer (or the Division of the State Architect), such tests are necessary to determine the quality of the material.

3.08 CONCRETE REINFORCEMENT INSPECTION AND TESTING

- A. General: Concrete reinforcement inspection and testing shall comply with Chapter 19 requirements for "Inspections of Welded Reinforcement Bars," CBC 1998.
- B. Prior to use, test all reinforcement steel bars for compliance with the specified standards.
  1. Where samples are taken from bundles delivered from the mill, with the bundles identified as to heat number, and provided the mill analysis accompanies the report, then, one tensile test and one bend test shall be made on a specimen from each 10 tons or fraction thereof for each size of reinforcing steel.
  2. Tag identified steel at the supplier's shop. When steel arrives at the job site without such tags, test it as unidentified steel.
- C. Unidentified Steel:
  1. Have the testing laboratory select samples consisting of two pieces, each 18" long, of each size.
  2. Have the testing laboratory make one tensile test and one bend test for each 2-1/2 tons or fraction thereof of each size of unidentified steel.
  3. Costs of tests for unidentified steel will be paid by the Owner and deducted from the Contract sum.
- D. Provide continuous inspection for all welding of reinforcement steel.

3.09 STRUCTURAL STEEL INSPECTING AND TESTING

- A. Prior to use, test all structural steel for compliance with the specified standards.
  - 1. Material identified by mill test reports, and certified by the testing laboratory, does not require additional testing. Require the supplier to furnish mill test reports to the laboratory for certification.
  - 2. Tag identified steel at the supplier's shop. When steel arrives at the job site without such tags, test it as unidentified steel.
- B. Unidentified Steel:
  - 1. Have testing laboratory make one tensile test and one bend test for each five tons or fraction thereof of each shape and size of unidentified structural steel.
  - 2. Costs of tests for unidentified steel will be paid by the Owner and deducted from the Contract sum.
- C. Shop Welding:
  - 1. Provide qualified testing laboratory inspector. The jurisdictional authority shall approve inspector.
  - 2. On single pass welds, inspect after completion of welding prior to painting.
  - 3. On multiple pass welds, and on butt welds with cover pass on the backside, provide continuous inspection.
- D. Field Welding: Provide continuous inspection by a qualified testing laboratory inspector. The jurisdictional authority shall approve inspector.

### 3.010 ROOFING AND WATERPROOFING INSPECTING AND TESTING

- A. Prior to start of membrane waterproofing and roofing installation, conduct a job site meeting attended by representatives of the installing subcontractors, the Contractor's field superintendent, the testing laboratory inspector, and the Architect, to agree upon procedures to be followed.
- B. Prior to start of installation, verify that the materials at the job site comply with the specified standards, that the subcontractor is qualified to the extent specified, and that the installing personnel are fully informed as to procedures to be followed.
- C. During installation, verify that materials are installed in strict accordance with the manufacturers' recommendations as accepted by the Architect.
- D. When so directed by the Architect, make test cuts to verify conformance with the specified requirements.

### 3.011 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 within the construction schedule.
- B. 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.

### 3.012 INSPECTION BY THE OWNER

The Owner or his representative shall at all times have access to the shops wherein Work is being fabricated or assembled and inspection is required. The Contractor shall provide safe access for such inspection.



### 3.013 OWNER'S INSPECTOR

An inspector employed by the Owner in accordance with the requirements of California Building Code Amendments will be assigned to the Work. The work of construction in all stages of progress shall be subject to the personal continuous observation of the inspector. He shall have free access to any or all parts of the work at any time. The Contractor shall furnish the inspector reasonable facilities for obtaining such information as may be necessary to keep him fully informed respecting the progress and manner of the work and the character of the materials. Inspection of the work shall not relieve the Contractor from any obligation to fulfill this contract. The inspector and/or Owner shall have authority to stop the work whenever the provisions of the Contract Documents are not being complied with and the Contractor shall instruct his employees accordingly.

### 3.014 OWNER'S INSPECTOR – FIELD OFFICE

The Contractor shall provide for the use of the Owner's Inspector a temporary office to be located as directed by the Inspector and to be maintained until the Owner authorizes removal. This office shall be of substantial waterproof construction with adequate natural light and ventilation by means of stock design windows. The door shall have a lock. The Contractor shall provide a table satisfactory for the study of plans and two chairs. The Contractor shall provide and pay for adequate electric lights, private local telephone service with a loud exterior bell, and adequate heat or air conditioning for this field office until completion of the Contract. Minimum area of field office shall be 144 square feet.

**\*\*\* END OF SECTION \*\*\***

**SECTION 01900**  
**LIST OF PROJECT CLOSE-OUT ITEMS**

**PART 1 -- GENERAL**

1.01 SUMMARY

- A. Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.
- B. The Lists in this Section are provided for the convenience of the General Contractor and shall not diminish the requirements of the specific Sections of the Project Manual.

1.02 QUALITY ASSURANCE

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.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

1.03 SUBMITTALS

- A. In accordance with Article 5 of the General Conditions, Project Manual Section 00700.
- B. Unless otherwise directed in other Sections, or in writing by the Architect, submit (3) three copies of the final Manual to the Architect prior to indoctrination of operation and maintenance personnel.

**PART 2 -- ITEMS**

2.01 REPORTS

Section:	Name:	Comments:
02666	Potable Water System	Per Item 3.03.D & 3.03.E
15400	Plumbing	Per Item 3.04.A
15600	HVAC	Per Item 1.04
16000	Electrical	Per Item 1.05
16721	Fire Alarm Systems	Per Item 3.3

2.02 AS-BUILT DRAWINGS (2 SETS)

Section:	Name:	Comments:
02940	Irrigation	
15400	Plumbing	
15600	HVAC	
16000	Electrical	

2.03 EXTRA MATERIALS

Section:	Name:	Comments:
02780	Interlocking Unit Paving	5% of each typ.
02782	Detectable Warning Surface	2% of each type.
09300	Tile	2% (1 box minimum)

Section:	Name:	Comments:
09350	Stone Flooring	10 pieces of each type of stone unit specified.
09510	ACT	3% (1 box minimum)
09645	Athletic Surfacing	1% of each type.
09650	Resilient Flooring	5% (1 box minimum)
09680	Carpet	5%
09710	Acoustical Wall Panels	5%
09720	Fabric Wall Panels	2% of each color and pattern.
09720	Wall Coverings	2% of each color and pattern.
09900	Painting	10% (1 gallon per color minimum)
10270	Access Flooring	Per Item 1.09
10800	Accessories	(2) Master Keys
15330	Fire Sprinkler	Per Item 1.10
16721	Fire Alarm	Per Item 1.11

#### 2.04 MAINTENANCE & OPERATION MANUALS (2 BINDERS)

Section:	Name:	Comments:
02940	Irrigation	Per Item 1.012
04730	Manufactured Stone Veneer	Per Item 1.04 - B
07240	Exterior Insulation and Finish System (EIFS)	Per Item 1.010
09350	Stone Flooring	Per Item 1.05
09650	Resilient Flooring	Per Item 1.05
09660	Fluid-Applied Flooring	Per Item 3.05 - A
09670	Epoxy Resinous Flooring	Per Item 3.06
09720	Fabric Wall Panels	Per Item 1.04 - D
10270	Access Flooring	Per Item 1.07
12345	Metal Laboratory Casework	Per Item 1.06
13850	Security Equipment	Per Item 1.06 - D
15010	Mechanical	Per Item 1.10
15190	Mechanical ID	
15330	Fire Sprinkler	Per Item 1.9
15400	Plumbing	Per Item 3.02
15600	HVAC	Per Item 3.07
16000	Electrical	Per Item 3.013

#### 2.05 SUPPLEMENTAL WARRANTIES

Section	Name:	Items:	Time:	Comments:
02782	Detectable Warning Surface	All	5 years	
02792	Playground Surfacing		5 years	
02950	Landscape Material	15 gallon or less	90 days	
		24" or greater	1 year	
02980	Landscape	Maintenance	90 days	
04270	Glass Masonry Unit	Glass Unit	5 years	
06152	Timbertech	All	25 years	
06410	Custom Casework	All	2 years	
07175	Water Repellent Coatings	Material	5 years	
07210	Insulation	All	5 years	
07412	Metal Wall Panels	Material	20 years	
07540	Membrane Roofing	Complete System	30 years	
07500	Built-Up Roofing	All	10 years	
07510	Foam Roofing	All	10 years	

Section	Name:	Items:	Time:	Comments:
07550	Standing Seam Metal Roof	Labor & Materials	2 years	
		Finish	20 years	
07600	Flashing and Sheet Metal	All	2 years	
07900	Sealants & Caulking	All	5 years	
08360	Insulated Rolling Service Doors	All	2 years	
08370	Accordion Fire Doors	Testing & Inspection	5 years	
08400	Aluminum Entrance Systems	Labor & Materials	2 years	
08500	Aluminum Windows	Labor	2 years	
08710	Finish Hardware	Locksets	3 years	
		Heavy-Duty Locksets	7 years	
		Exit Devices	3 years	1-year for electrical
		Closers	10 years	2-years for electrical
		Hinges	Lifetime	
		Other	2 years	
08800	Glazing	All	2 years	
09624	Sport Flooring	Coverings	2 years	
09645	Indoor Resilient Athletic Surfacing	Materials & Labor	2 years	
		Installation	2 years	
		Wear	15 years	
09645	Multi-Purpose Sports Flooring	Materials	2 years	
		Installation	2 years	
		Wear	15 years	
09670	Epoxy Resinous Flooring	Materials	5 years	
09720	Wall Coverings	Materials	5 years	
09725	Vinyl Wallcoverings	Manufacturing defects	5 years	
09742	Thin Film Epoxy Coating	Materials & Labor	3 years	
10155	Solid Polymer Toilet Partitions	Materials & Labor	15 years	
10650	Accordion Partitions	All	2 years	
		Track Equipment	10 years	
10650	Operable Partitions	Materials & Labor	2 years	
11400	Food Services Equipment	Compressor	5 years	
11452	Food Service Equipment	Compressor	5 years	
13130	Fabric Shade Structures	Materials	10 years	
13500	Metal Building System	Materials & Roof System	20 years	
13700	CCTV	Equipment	3 years	
15400	Plumbing	Water Hammer Arrestors	Lifetime	
15600	HVAC Equipment	Equipment Motors	5 years	
16000	Electrical	System	2 years	

\*\*\*END OF SECTION\*\*\*

This page is intentionally blank

**SECTION 02070**  
**SELECTIVE DEMOLITION AND RECONSTRUCTION**

**PART 1 -- GENERAL**

**1.01 SUMMARY**

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

**1.02 SCOPE OF WORK**

**A. Work included:**

1. Carefully demolish and remove from the site those items scheduled to be so demolished and removed. Furnish materials and perform labor required to execute this work as required by the Drawings and/or as specified and as necessary to complete the Contract, including, but not limited to, these major items:
  - a. Protection of existing work to remain.
  - b. Barricades, lights, signs and safety precautions required by governing codes.
  - c. Removal and disposition of all material resulting from this work, except materials to be stored for Owner.
  - d. Patching as necessary to match existing.
  - e. Saw-cutting existing concrete and asphalt concrete.
  - f. Protection of existing vegetation or shrubbery to remain.
  - g. Cleaning existing items to remain.
  - h. Relocation of existing items as necessary to provide for new construction and as required by the Drawings.
  - i. Removal and/or relocation of utility lines (water, electric, sewer) as required by the Drawings, and such lines not shown but encountered in the course of the work.
  - j. Removal and/or relocation of existing irrigation lines.

**B. Related work:**

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

**1.03 GENERAL REQUIREMENTS**

- A. Codes: Perform all work in accordance with the Codes listed in 1.33 of General Conditions and as required by local governing authority.
- B. All bidders submitting bids for this work shall first examine the site and all conditions and limitations thereon and thereabouts. Bid shall take into account all such conditions and limitations, whether or not the same are specifically mentioned in any of the contract documents and every bid shall be construed as including whatever sums are needed to complete the work in every part as shown, described, or reasonably required or implied,

and attain the completed conditions contemplated by the Contract. The demolition drawings, including demolition work shown on construction drawings, shall be considered as a guide only. The exact extent of the demolition and reconstruction work shall be determined by a site visit and investigation.

- C. Partial removal: Items scheduled to be removed and of salvageable value to Contractor, excluding those items to be retained by the Owners, may be removed from the structure as work progresses. Salvaged items must be transported from site as they are removed.
  - 1. Storage or sale of removed items on site will not be permitted.
- D. Noise control: Carry on all work in a manner which will produce the least amount of noise. Instruct all workmen in noise control procedures.
- E. Items of existing work indicated to remain upon completion of the Contract, but which require removal to complete the work, shall be carefully removed and replaced upon completion. The replaced work shall match its condition at the start of the work.

#### 1.04 QUALITY ASSURANCE

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.

#### 1.05 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

#### 1.06 SUBMITTALS

- A. In accordance with Article 5 of the General Conditions, Project Manual Section 00700.
- B. Schedule: Submit proposed methods and operations of building demolition to Architect for review prior to start of work. Include in schedule coordination for shut-off, capping, and continuation of utility services as required.

### **PART 2 -- PRODUCTS**

As necessary for proper completion of this Work.

### **PART 3 -- EXECUTION**

#### 3.01 EXAMINATION

- A. Examine the areas and conditions under which work of this Section will be performed.
- B. Correct conditions detrimental to timely and proper completion of the Work.
- C. Do not proceed until unsatisfactory conditions are corrected.
- D. Beginning of installation means acceptance of conditions.

#### 3.02 GENERAL PROVISIONS

- A. By careful study of the Contract Documents, determine the location and extent of selective demolition to be performed.
- B. In company with the Architect and Owner, after receiving Notice to Proceed, visit the site and verify the extent and location of selective demolition required.
  - 1. Carefully identify limits of selective demolition.

2. Mark interface surfaces as required to enable workmen also to identify items to be removed and items to be left in place intact.
- C. Take into consideration as necessary work, all obvious existing conditions and installations on the site as though they were completely shown or described. Accept the site of the work as it exists and clear obstructions to the work shown.
  - D. Examine the site and all conditions and limitations thereon and thereabouts. Take into account all such existing conditions and limitations whether or not the same are specifically shown or mentioned in any of the Contract Documents and include whatever is needed to complete the work in every part as shown, described or reasonably required or implied to attain the completed condition contemplated by the Contract.
  - E. Prepare and follow an organized plan for demolition and removal of items.
    1. Shut off, cap, and otherwise protect existing public utility lines in accordance with the requirements of the public agency or utility having jurisdiction. Review plans, and confer with the Architect, to determine which lines are to be abandoned and which are to be kept active.
    2. Completely remove items scheduled to be so demolished and removed, leaving surfaces clean, solid, and ready to receive new materials specified in other Sections of these Specifications.
    3. In all activities, comply with pertinent regulations of governmental agencies having jurisdiction.
  - F. Demolished material shall be considered to property of the Contractor and shall be completely removed from the job site. Do not store or permit debris to accumulate on the site. Burning of removed materials from demolished operations will not be permitted on site.

### 3.03 POLLUTION CONTROLS

- A. Use temporary enclosures and other suitable methods to limit dust and dirt rising and scattering in air to lowest practical level. Comply with governing regulations pertaining to environmental protection.
  1. Do not use water when it may create hazardous or objectionable conditions such as ice, flooding, and pollution.
- B. Clean adjacent structures and improvements of dust, dirt, and debris caused by demolition operations, as directed by Architect or governing authorities. Return adjacent areas to condition existing prior to start of work.

### 3.04 PROTECTION

- A. Site security: Erect wire or solid wood fences, barricades, warning lights and signs as required by the governing building code, to protect all manner of person from injury, to prevent trespassing, and to prevent theft or damage to the work.
- B. Protection of work to remain: Use stakes, barricades, and such other means of protection as required to prevent damage to existing work and equipment to remain.
- C. Protect all landscaping scheduled to remain.
- D. Ensure safe passage of persons around area of demolition. Conduct operations to prevent injury to adjacent buildings, structures, other facilities, and persons.
  1. Erect temporary covered passageways as required by authorities having jurisdiction.
  2. Provide interior and exterior shoring, bracing, or support to prevent movement,



settlement or collapse of building structure to remain.

3.05 TRAFFIC

- A. Conduct demolition operations and removal of debris to ensure minimum interference with roads, streets, walks, and other adjacent occupied or used facilities.
- B. Do not close or obstruct streets, walks or other occupied or used facilities without permission from authorities having jurisdiction. Provide alternate routes around closed or obstructed traffic ways if required by governing regulations.

3.06 UTILITY SERVICES

- A. Maintain existing utilities, keep in service, and protect against damage during demolition operations.
- B. Do not interrupt existing utilities serving occupied or used facilities, except when authorized in writing by authorities having jurisdiction. Provide temporary services during interruptions to existing utilities, as acceptable to governing authorities.

3.07 REPLACEMENTS

- A. In the event of demolition of items not so scheduled to be demolished, promptly replace such items to the acceptance of the Architect and at no additional cost to the Owner.
- B. Patch and fill holes caused by removal of piping and conduit in concrete slabs, and concrete walls with 3,000 psi concrete; level flush with adjacent surfaces.

3.08 ASPHALT CONCRETE PAVEMENT

All asphalt concrete pavement damaged, cut, trenched, etc. and any base material under the pavement shall be replaced and/or repaired using same specifications as existing pavement.

3.09 REMOVED MATERIALS TO BE SALVAGED OR REUSED

- A. Materials to be salvaged will be noted as such on the Construction Drawings. Existing Vertical blinds shall be included in salvage. Where room sizes match blind sizes, Contractor to include reinstallation of blinds as directed by Owner. Blinds shall be cleaned prior to reinstallation.
- B. Exercise extreme care when removing materials to be salvaged or reused. Use only mechanics skilled in the appropriate crafts.
- C. Store and protect salvaged materials until needed to be re-installed on the project, or deliver to Owner in good condition.

3.010 DEMOLITION

- A. Asphalt Concrete: Remove existing asphalt concrete and base material scheduled to be removed and prepare surface in accordance with Section 02510. All edges shall be saw-cut in straight and true lines.
- B. Concrete: Exercise due caution in cutting and/or patching concrete so as not to damage or deface that portion of the existing structure which is to remain. Should any such impairment occur, immediately clean or restore to original condition at no cost to Owner.

3.011 RECONSTRUCTION - GENERAL

- A. By careful study of the Contract Documents, determine the location and extent of reconstruction to be performed.
- B. In company with the Architect, visit the site and verify the extent and location of reconstruction required.
- C. Inspect existing surfaces to determine required surface preparation procedures.

- D. Plumbing and Electrical: In any case where a new line may tie into and extend existing line within the limits of the reconstruction Work, Contractor shall examine the entire existing line and determine whether the new Work will be adversely affected by it, and notify Architect of any such defect before tying in.

3.012 IN ALL RECONSTRUCTION WORK

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.

**\*\*\*END OF SECTION\*\*\***

This page is intentionally blank

**SECTION 02510**  
**ASPHALT CONCRETE PAVING**

**PART 1 -- GENERAL**

1.01 SUMMARY

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

1.02 DESCRIPTION

Work included: Provide base course, asphaltic concrete paving, weed killer, striping and sealer where shown on the Drawings, as specified herein, and as needed for a complete and proper installation. All of the requirements of the Contract Documents apply to this Section.

1.03 QUALITY ASSURANCE

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 methods needed for proper performance of the work of this Section.

1.04 STANDARDS

- A References herein to State Standard Specifications are to the Standard Specifications of the Department of Transportation, State of California (Caltrans), Latest Edition.
- B References herein to Standard Specifications are to the Standard Specifications for Public Works Construction, prepared by the Southern California Chapters of the American Public Works Association and The Associated General Contractors of America, 1995 Edition.

1.05 GUARANTEE

Submit one year guarantee in accordance with and in form required in Division 1. Guarantee shall include bringing to grade and repairing of defective surfacing due to grade settlement of fills, trench fills or any portion of base or surfacing.

1.06 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

1.07 SUBMITTALS

Product data: Within 35 calendar days after the Contractor has received the Owner's notice to proceed, submit:

- A In accordance with Article 5 of the General Conditions, Project Manual Section 00700.
- B Materials list of items proposed to be provided under this Section.
- C Certificates, signed by the materials producer and the asphaltic paving subcontractor, stating that materials meet or exceed the specified requirements.

**PART 2 -- PRODUCTS**

2.01 PAVEMENT SYSTEM

Parking Lots: See Drawings for recommended section.

2.02 AGGREGATES

- A. Provide aggregates consisting of crushed stone, gravel, sand, or other sound, durable, mineral materials processed and blended, and naturally combined.
- B. Base aggregate: State Standard Specifications, Section 26, Class 2, maximum size:
  - 1. Base courses over 6 inches: 1-1/2 inch.
  - 2. Other base courses: 3/4 inch.
  - 3. The aggregate base shall also have a sand equivalent value of not less than 30 when tested in conformance with Test Method No. California 217.
- C. Aggregates for asphaltic concrete paving: Standard Specifications Section 203-6, Type I - Class C (1/2") for 1-1/2" lifts. Aggregate shall be Type I - Class D (3/8") for 1" lifts.
- D. Slurry Seal Aggregate: Standards Specification, Section 203-5.

2.03 ASPHALTS

- A. Asphalt concrete pavement shall comply with Section 203-6 and 302-5 of the Standard Specifications, except that asphalt concrete shall not be placed when the atmospheric temperature is below 50°F. Paving asphalt shall be AR 4000.
- B. Slurry Seal Binder: Standard Specifications, Section 203-5; SS-1H asphaltic emulsion.
- C. Comply with provisions of Standard Specifications, Section 302-5:
  - 1. Asphalt cement: Penetration grade 50/60
  - 2. Prime coat: SC-70 Liquid Asphalt
  - 3. Tack coat: Uniformly emulsified, grade SS-1H

2.04 MIXING ASPHALTIC CONCRETE MATERIALS

Provide hot plant mixed asphaltic concrete paving materials in accordance with Standard Specifications, Section 203-6.

- 1. Temperature leaving the plant: 290°F. Minimum, 320°F maximum.
- 2. Temperature at time of placing: 280°F minimum.

2.05 WEED KILLER

- A. Provide a dry, free-flowing, dust-free chemical compound containing not less than 30% sodium chlorate or a chlorpyrifos or Permethrin compound, non-flammable, not creating a fire hazard when applied in accordance with the manufacturer's recommendations, soluble in water, and capable of being spread dry or in solution. Chemical shall comply with Section 815-3.6 of FMA MP 5.
- B. Acceptable products:
  - 1. "Duraban TC":
  - 2. "Dragnet":

2.06 HEADERS AND STAKES

Provide Redwood, Construction grade, in dimensions shown on the Drawings or 2 x 4 sizes for the use where dimensions are not shown on the Drawings.

2.07 MARKING PAINT

Provide traffic paint as indicated on the Drawings and as manufactured by J.E. Bauer Company, in colors selected by the Architect from standard colors of the manufacturer.

## **PART 3 -- EXECUTION**

### **3.01 EXAMINATION**

- A. Examine the areas and conditions under which work of this Section will be performed.
- B. Correct conditions detrimental to timely and proper completion of the Work.
- C. Do not proceed until unsatisfactory conditions are corrected.
- D. Beginning of installation means acceptance of conditions.

### **3.02 FINAL PREPARATION OF SUBGRADES**

- A. After preparation of subgrade as specified in another Section of these Specifications, thoroughly scarify and sprinkle the entire area to be paved, and then compact to a smooth, hard, even surface of 90% compaction to receive the base aggregates or 95% to receive the asphaltic concrete.
- B. Apply the specified weed killer to the entire area to be paved. Adhere to the manufacturer's application recommendations.

### **3.03 PLACEMENT OF BASE COURSE**

- A. Base:
  - 1. The aggregate base material shall be spread as specified in Section 26-1.035 and 26-1.04 of the State Standard Specifications. The aggregate base material shall be compacted as specified in Section 26-1.05 of the State Standard Specifications.
  - 2. Spread the specified base material to a thickness providing 6 inch minimum thickness unless otherwise noted.
  - 3. Compact to 95%.
- B. Thickness tolerance: Provide the compacted thicknesses shown on the Drawings within a tolerance of minus 0.0" to plus 0.5".
- C. Smoothness tolerance: Provide the lines and grades shown on the Drawings within a tolerance of 3/8" in ten feet.
  - 1. Deviations: Correct by removing materials, replacing with new materials, and reworking or recompacting as required.
- D. Moisture content: Use only the amount of moisture needed to achieve the specified compaction.

### **3.04 PLACEMENT OF ASPHALTIC CONCRETE PAVING**

- A. The method of depositing, distributing and rolling the asphalt concrete shall be in accordance with Sections 302-5.4 and 302-5.5 of the Standard Specifications.
- B. Install the specified headers and stakes to achieve the arrangement of paving shown on the Drawings.
- C. Remove all loose materials from the compacted base.
- D. Apply the specified prime coat, and tack coat where required, Standard Specification, Sections 302-5.2 and 302-5.3, and allow to dry.
- E. Adjust frames and covers, if so required, to meet final grades.
- F. Receipt of asphaltic concrete materials:
  - 1. Do not accept material unless it is covered with a tarpaulin until unloaded, and unless the material has a temperature of not less than 280°F.

2. Do not commence placement of asphaltic concrete materials when the atmospheric temperature is below 50° F, nor during fog, rain, or other unsuitable conditions.
- G. Spreading:  
Spread material in manner which requires the least handling.
- H. Rolling:
1. After the material has been spread to the proper depth, roll until the surface is hard, smooth, unyielding, and true to the thickness and elevations shown on the Drawings.
  2. Roll in at least two directions until no roller marks are visible.
  3. Finished paving smoothness tolerance:
    - a. Free from birdbaths.
    - b. No deviations greater than 1/8" in six feet.
- 3.05 FLOOD TEST
- A. Prior to application of seal coat, perform a flood test in the presence of the Architect.
- B. Method:
1. Flood the entire asphaltic concrete paved area with water by use of a tank truck or hoses.
  2. If a depression is found where water ponds to a depth of more than 1/8" in six feet, fill or otherwise correct to provide proper drainage.
  3. Feather and smooth the edges of fill so that the joint between fill and original surface is invisible.
- 3.06 APPLICATION OF SEAL COAT
- A. Prepare the surfaces, mix the seal coat material, and apply in accordance with Standard Specifications, Sections 302-4.
- B. Apply one coat of the specified sealer.
- C. Achieve a finished surface seal which, when dry and thoroughly set, is smooth, tough, resilient, of uniform black color, and free from coarse textured areas, lap marks, ridges, and other surface irregularities.
- 3.07 PAVEMENT MARKING
- A. Prepare the surfaces and apply the specified paint in accordance with the manufacturer's recommendations as accepted by the Architect.
- B. Contractor shall provide two coats as necessary to provide sufficient contrast from paving.
- 3.08 PROTECTION
- Protect the asphaltic concrete paved areas from traffic until the sealer is set and cured and does not pick up under foot or wheeled traffic.

**\*\*\*END OF SECTION\*\*\***

**SECTION 02550**  
**SITE CONCRETE WORK**

**PART 1 -- GENERAL**

**1.01 SUMMARY**

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

**1.02 SCOPE OF WORK**

A. Complete site concrete work as shown on drawings and specified herein.

1. Final Subgrade Preparation
2. Forms for this Work
3. Placing Concrete
4. Concrete Finishing
5. Concrete Curing
6. Reinforcement

**1.03 GENERAL REQUIREMENTS**

A. Reference Standards:

1. CBC: All work shall conform to the requirements of the 2007 edition.
2. County of Riverside.

B. Tests and Inspection:

1. Tests shall be performed as required by the Inspector.
2. Contractor shall notify testing laboratory a minimum of forty-eight (48) hours before pouring of concrete.
3. A minimum of three (3) test cylinders will be taken by molded cylinder method for each fifty (50) yards of each grade of structural concrete. A minimum of one set of cylinders shall be taken for each day placement of each grade.

**1.04 SUBSTITUTIONS**

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

**1.05 SUBMITTALS**

A. In accordance with Article 5 of the General Conditions, Project Manual Section 00700.

B. Contractor shall submit all necessary Product Data and a complete list of material sources for all products to be incorporated into the project for review and approval of the Architect. The Performance of all Mix Designs shall be established either by stamped by an individual licensed to specify concrete mix designs engaged by Concrete Supplier or by break test data from at least 30 different projects for each mix design.

**1.06 CLOSEOUT**

Upon completion of work of this Section, the Contractor shall remove all equipment, excess material, and waste products from the site.



**PART 2 -- PRODUCTS**

**2.01 MANUFACTURER**

Materials used in concrete work shall be all new from domestic sources approved by the Architect.

**2.02 MATERIALS**

A. Cement: Shall be a standard brand of domestic Portland cement conforming to "Standard Specifications for Portland Cement", ASTM Des. C-150 Type I or II.

B. Concrete Aggregates: Shall conform to ASTM Des. C-33 and UBC Standard No. 26-2 for stone weight concrete and in addition shall comply with the following:

1. Aggregates shall be from approved local pits and shall not contain opaline, feldspar, siliceous magnesium limestone, or other deleterious substances. No pumice aggregate will be allowed. If aggregate is from pits having a high alkali content, cement shall be "low alkali" with a maximum of 0.6% free alkali as determined by standard tests in ASTM C-114.

2. Concrete aggregates for stone concrete shall conform to UBC Standards, except as modified by this section. Any suitable individual grading of coarse aggregates may be used, provided the "grading of combined aggregates" shown below are obtained. Both the coarse and fine aggregate shall be tested by the use of a solution of sodium or magnesium sulfate, or both, whenever in the judgment of the Architect or Structural Engineer or the Building Department, such tests are necessary to determine the quality of the materials. Such tests shall be performed in accordance with the standard method of tests for "Soundness of Aggregates by Use of Sodium Sulphate or Magnesium Sulphate", ASTM C88. The loss shall not exceed six percent for either fine or coarse aggregate. Aggregate failing to comply with this requirement may be used in the work provided it contains less than 2 percent of shale and other deleterious particles and shows a loss in the soundness test of not more than ten (10) percent when tested in the sodium sulphate solution.

3. Grading of Combined Aggregate:

	<u>SAME NUMBER AS ONE &amp; ONE HALF</u>	<u>ONE INCH</u>	<u>THREE-FOURTHS</u>	
<u>SIZE IN INCHES</u>	<u>INCH MAXIMUM</u>	<u>MAXIMUM</u>	<u>INCH MAXIMUM</u>	
Passing a 2 inch	--	--	--	
Passing a 1-1/2"	95 - 100	--	--	
Passing a 1"		75 - 90	90 - 100	--
Passing a 3/4"	55 - 77	70 - 90	90 - 100	
Passing a 3/8"	40 - 35	45 - 65	60 - 80	
Passing a No. 4	30 - 40	31 - 47	40 - 60	
Passing a No. 8	22 - 35	23 - 40	30 - 45	
Passing a No. 16	16 - 30	17 - 35	20 - 35	
Passing a No. 30	10 - 20	10 - 23	13 - 23	
Passing a No. 50	2 - 8	2 - 10	5 - 15	
Passing a No. 100	0 - 3	0 - 3	0 - 5	

4. Coarse Aggregate: Shall be clean, hard, fine-grained, sound washed gravel, or crushed stone, containing not more than 2% by weight of flat, thin elongated,

friable, or laminated pieces. Maximum sizes of gradations for concrete work shall be 3/4" and 1-1/2" for locations as hereinafter designated. The nominal maximum size of the aggregate shall not be larger than one-fifth of the narrowest dimensions between sides of forms, one-third of the depth slabs, nor three-fourths of the minimum clear spacing between individual reinforcing bars.

- C. Water: For all concrete and cement work shall be clean, free from strong acids, alkali, oil, or organic materials and shall be supplied by Contractor from domestic source.
- D. Form Coatings: Standard product resin type sealer, free of oil, grease, wax or any other substance deleterious to materials applied to concrete, delivered in unopened labeled containers. Do not use form oil or any oil-bearing material.
- E. Forms: Conform to shape, lines and dimensions of the members as shown on the plans. Properly brace or tie together to maintain position and shape. Make forms sufficiently tight to prevent leakage of mortar. Lumber shall be Construction grade Douglas Fir conforming to WCLA Grading Rules 16, as revised.
- F. Other Admixtures:
  - 1. For workability, an admixture may be added in accordance with manufacturer's recommendations. Obtain approval of material prior to use. Approval will be based on the following requirements:
    - a. Reduction of mixing water by at least ten (10) percent.
    - b. Reduction of segregation and bleeding.
    - c. Increasing of placability and viscosity of concrete.
    - d. No reduction in strength for any proportion of water/cement ration.
  - 2. Add air-entrainment material to concrete mix at the rate of 4-6% per cubic yard of concrete.

## 2.03 CONCRETE

- A. Transmit-mixed concrete shall be mixed and delivered in accordance with the requirements set forth in ASTM C94 and, in addition, shall in no case be mixed for a period of less than ten (10) minutes at a peripheral drum speed of approximately 200 feet per minute, and mixing shall be continued until discharge is completed. At least 3 minutes of the mixing period shall be at the job site. Concrete shall be rejected if not placed in final position within one (1) to one and a half (1-1/2) hours after water is first added to the batch. The concrete at the time of placing shall be in such condition that it can be properly placed.
- B. Site-mixed Concrete: Conform to "Arbitrary Mix" in Uniform Building Code.
- C. All concrete shall be six (6) sack mix concrete having a twenty-eight (28) day strength of not less than two thousand (3000) PSI or as noted on the plans and details.
- D. Curing Materials:
  - 1. Liquid curing compound: Thompson's approved standard product fugitive resin type, or equal conforming to ASTM C309, free of wax or oil, compatible with subsequently applied finishes or coverings, not deleterious to bond of cementitious materials to concrete. Deliver in unopened, labeled containers.
  - 2. Concrete Curing Paper: Sisalkraft, non-staining reinforced type, or equal conforming to ASTM C171.
- E. Expansion Joint Material: "Fleximastic" or other approved hot-pour rubber type conforming to ASTM D1190.
- F. Concrete Finish: Medium Salt Finish and/or broom finish as called out on the Drawings.

- G. Patching Mortar: One part Portland cement or equal (part white and part gray adjusted to match color of paving being patched) and two and one-half (2-1/2) parts sand with the least water required to produce a workable mass. Rework this mortar until it is the stiffest consistency that will permit placing.
- H. Reinforcing fibers: Shall be polypropylene, collated, fibrillated fibers from Fibermesh Company (615) 892-7243, or approved equal. Follow NER 284 and manufacturers requirements for installation. Only fibers designed and manufactured specifically for use in concrete and so certified shall be acceptable.

### **PART 3 -- EXECUTION**

#### **3.01 EXAMINATION**

- A. Examine the areas and conditions under which work of this Section will be performed.
- B. Correct conditions detrimental to timely and proper completion of the Work.
- C. Do not proceed until unsatisfactory conditions are corrected.
- D. Beginning of installation means acceptance of conditions.

#### **3.02 SUBGRADE PREPARATION**

- A. Construct the subgrade true to grade and detail as shown on the plans.
- B. Contractor shall verify the acceptability of the work of other sections to be concealed by concrete work prior to commencing concrete placement.
- C. Preparation Before Placing: Water shall be removed from excavation before concrete is deposited. Any flow of water shall be diverted without washing over freshly deposited concrete. Hardened concrete, debris and foreign materials shall be removed from interior of forms and from inner surfaces of mixing and conveying equipment. Reinforcement shall be secured in position, inspected and approved before pouring of concrete. Wheeled concrete-handling equipment shall not be wheeled over reinforcement nor shall runways be supported on reinforcement. Sub-grade for paving over native earth or fill shall be finished to exact location and section of bottom of slab and shall be maintained in a smooth, compacted condition, until concrete is placed. Sub-grade shall be thoroughly moistened but not muddy at time concrete is deposited.
- D. Subgrade to 95% maximum density at optimum moisture content.
- E. Prior to pouring concrete, call Contractor's Soil Engineer for approval of subgrade compaction and moisture content. Give Soil Engineer minimum 24 hours notice prior to inspection time. Soil Engineer's fee will be paid by Contractor.

#### **3.03 FORMING**

- A. Set forms with upper edges true to line and grade. Remove side forms not sooner than twelve (12) hours after finishing has been completed.
- B. Form curves so that there are no abrupt offsets or jogs at points of tangency. Secure approval of form alignment both horizontally and vertically prior to pouring and make necessary adjustments to conform to plans and details as directed.
- C. Where forms adjoin existing concrete, the transition shall be smooth and even in both alignment and in horizontal plane.
- D. Forming shall not be secured to surface which will remain exposed, with powder shot studs or any other manner which will damage finish.

- E. Rigidly construct and shore to prevent mortar leakage, sagging, displacement, or bulging between supports. Use clean, sound approved form material, coated with specified materials only, not oil. Provide backing on all plywood joints.
  - 1. Form Ties: Bolts or rods with internal ties and spreaders; designed so that no permanent metal is within one (1) inch of exterior surface or one-half (1/2) inch of interior surface.
  - 2. Wood: Leave no wood in forms except as indicated nailing blocks and inserts.
  - 3. Shores: Of substantial construction to prevent deflection under imposed loads, double-wedged with large bearing blocks, kept tight during concrete placing, or with approved jacks.
- F. Embedded Items: Install work built into concrete such as sleeves, anchor bolts, wood nailers, reglets, frames and sleeves for piping, conduit and fittings. Provide facilities and supervision required for installation of inserts specified under other sections and perform cutting and reinforcing of forms required to accommodate them. Do not place any concrete until all inserted items are installed in their proper locations, secured against displacement, cleaned, inspected and approved. Set such items according to approved shop drawings and setting plans. Furnish ties and supports necessary to keep embedded items in place when concrete is placed.

### 3.04 CONCRETE INSTALLATION

- A. Construct concrete work to conform to plans and details.
- B. Weather: Do not place concrete during rain unless approved measures are taken to prevent damage to concrete. Cure concrete placed during periods of dry winds, low humidity, high temperatures and other conditions causing rapid drying, initially with a fine fog maintained until final curing operations are begun.
- C. Slump: Conform to ASTM C143. Not over five (5) inches for slabs on grade and not over four (4) inches for walls and footings.
- D. Mix for footings shall be Class B concrete.
- E. Transit Mix:
  - 1. Transit mixed concrete shall conform to ASTM C-94 and UBC Standards. Transit mixers shall be equipped with automatic devices for recording number of revolutions of drum.
  - 2. Admixture: Shall comply with UBC Standards and shall be installed in accordance with manufacturer's recommendations.
  - 3. Transit mix concrete shall comply with UBC Standards and not be delivered to work with total specified amount of water incorporated therein. Withhold two and a half (2-1/2) gallons of water per cubic yard which may be incorporated in mix before concrete is discharged from mixer truck. Adding of any water shall be under direct inspection of Architect. Each mixer truck shall arrive at job site with its water container full.

### 3.05 PLACING FORMED CONCRETE

- A. Notify Architect not less than 48 hours before starting any concrete placing. No concrete shall be poured until reinforcing steel and forms have been approved by the Structural Engineer or Architect or by jurisdictional Inspector.
- B. Cleaning of Forms: Before placing of any concrete, thoroughly clean all forms, wash out with water, and make tight.
- C. Concrete: Deliver to point of placing so as not to fall vertically more than six (6) feet, and deposit so that surface is kept horizontal and level, a minimum amount being allowed to

flow from one portion to another. Deposit concrete in forms as nearly as possible in its final location. Under no circumstances deposit concrete which has partially hardened.

- D. **Vibration and Tamping:** As concrete is placed in forms, work concrete around reinforcing steel, built-in items and into corners and angles. Provide mechanical vibrators operated by experienced men for agitating concrete in forms and vibrate thoroughly within five (5) minutes after layer is placed. Vibration shall be carried well into previous layer. Supplement vibration by suitable methods to eliminate voids along forms for full depth of layer as directed. Do not use vibrators to work concrete along the forms. Keep at least one spare vibrator on the job at all times while concrete is being placed. Comply with ACI 309 (609.60), Consolidating of Concrete.
- E. **Stoppage:** Upon completion of pour and after concrete has partially hardened, wash scum or laitance off surface with stiff brush and stream of water. When work is resumed, brush clean with wire brushes or as specified, then place fresh concrete. A chemical retarding agent may be used on joint surfaces to expose the aggregate. Remove retarded mortar within 24 hours after placing and wash surface to produce a rough, exposed aggregate bonding surface.

### 3.06 FLATWORK

- A. Set forms as shown on plans.
- B. Deposit concrete evenly, consolidate with mechanical vibrators, particularly at side forms and strike off to indicated elevations and contours. Depress slabs for applied finishes as required. Maintain full indicated thickness of slab over all parts of cambered supports.
- C. Screed concrete to elevations and contour indicated or required for the work. Compact concrete with grid tamper to eliminate voids and pockets and to produce a uniformly dense slab.
- D. Where rough slabs are left to receive deferred finishes, provide protection against contamination from time of placing mechanically, leaving a clean surface.
- E. **Expansion Joints:**
  - 1. **Building/Paving:** Three-fourths (3/4) inch expansion joints with one-half (1/2) inch deep poly-sealant caulk water seal. Install typically where concrete paving meets the building shell and columns.
  - 2. **Sidewalks:** Expansion joints shall be provided in all sidewalks at twenty (20) feet o.c. Joints shall be filled with one-half (1/2) inch asphalt impregnated felt.
  - 3. All exterior flat work shall be marked off as indicated on the Drawings. Make markings with an approved "V" shaped tool, straight, even, properly spaced and uniformly deep matching contraction joints.
- F. **Contraction Joints:** Locate where indicated on plans, to full depth and slightly below finish surface. Make joints as detailed extending entirely through slab, using material conforming to ASTM D1751. Contraction joints for walks and paving unless otherwise indicated shall be tooled one-fifth (1/5) the depth of the slab and one-eighth (1/8) inch wide. Joints shall be five (5) feet on center unless otherwise indicated on the plans.
- G. Test surface as work progresses and eliminate high or low spots. Smooth gradient transitions are required.
- H. **Tolerances:** Cement finish shall be true in line, plane and elevations as shown. Finished concrete slab surfaces shall not deviate from a flat plane more than one-eighth (1/8) inch when tested with a ten (10) foot straight edge held in any direction. Furnish and maintain in good condition a ten (10) foot straight edge for use by the Architect.
- I. **Defective Finish:** Any slab showing a greater variation than the specified one-eighth (1/8) inch, showing voids or separation of the aggregates, or showing a texture in variance to

the plans shall be deemed defective and the entire slab shall be removed and replaced with acceptable concrete at the Subcontractor's expense.

### 3.07 SURFACE FINISHES

- A. Finish all surfaces to present a uniform appearance throughout the area involved, and throughout adjacent areas with the same treatment. Locations of required finish shall be as indicated on plans. Provide two (2) samples of each finish. The approved samples shall act as examples for all concrete work.
- B. Formed surfaces shall be free of flaws, cracks, rock pockets, voids or spalls and be true to line and detail.
- C. Ensure exposed to view finish surfaces of concrete are uniform in color and texture.
- D. Where finishing occurs adjacent to finished metal or other finished surfaces, particularly where serrated or indented, remove all traces of cement film before it hardens. This applies particularly to stair nosings and similar items.
- E. Broomed: After floating, draw broom across the surface at right angle to flow of traffic producing a uniform non-skid surface. For light broom finish, use a fiber broom, leaving depressings approximately one-sixteenth (1/16) inch deep. Use liquid curing membrane.
- F. Medium Salt Finish: After floating, finish with steel trowel. Add salt in density approved in sample. Wash clean after concrete set. Protect landscape areas from salt.
- G. Steel Trowel With "Sack" Finish: Shiner band at joints and paving edges shall be steel troweled. Do not burnish smooth. Sack finish to provide a smooth but skid-proof surface. Use liquid curing membrane.

### 3.08 CURING

- A. Commence curing as soon as feasible after finishing without marring surfaces, and in any case on same day.
- B. Paper Curing: Except as otherwise specified, use concrete curing paper only, joints sealed with pressure-sensitive tape; immediately repair any tears during curing period. Verify that surfaces remain damp for full curing period; if necessary, lift paper and wet surfaces with clean water, and replace paper.
- C. Liquid Curing Compound: Do not apply on any surface to receive retardant, mortar, or any other material adhered by bond, except as otherwise specified. Carefully mask and protect adjoining surfaces where compound is used.
- D. Fugitive Dye Type: Subject to approval, may be used where no other finish or material is to be applied, ASTM C309, clear, Type 1.
- E. Curing Period and Protection: Maintain curing mediums in proper sealed condition for minimum of ten days after application. Keep traffic on curing surfaces to minimum possible, and completely off liquid compound cured surfaces. Immediately restore any damaged or defective curing media.
- F. Curing Formed Concrete: Keep forms containing concrete thoroughly wet, including tops and exposed portions of concrete, for not less than fourteen (14) days from time of placing concrete. Continuously wet concrete between hours of 8:00 a.m. and sunset each day, including Saturdays, Sundays and holidays, for first ten (10) days, and not less than three (3) times daily for remaining four (4) days. Polyethylene film or equal may be used as approved.

### 3.09 DEFECTIVE CONCRETE

- A. If any concrete work is not formed as indicated, or is not true to intended alignment, or is not plumb or level; or has voids, honeycombs, or has been cut or resurfaced; or has voids or honeycombs that have been filled, unless under the direction of Architect or has

any sawdust, shavings, wood or debris embedded in it; or does not fully conform to provisions of contract; then such concrete work shall be deemed to be defective materials and/or faulty workmanship and Contractor shall remove same from site in accordance with contract.

- B. Defective concrete will be cut out by Contractor. Patch and fill surfaces which are to remain exposed and indicated to be smooth so as to match adjoining areas.
- C. Fill rock pockets, "honeycombs" and holes resulting from the removal of nails, ties and spreaders and like items with mortar formed of cement and fine aggregate in the proportion used in concrete mix, and non-shrink grout material in quantity as recommended by the manufacturer, using a pressure gun. Chip away defective areas to solid concrete, forming perpendicular or slightly undercut edges. Drench area of patch and surrounding area with water. Brush a thin coat of cement grout onto base and edges of patch area. Pack full with mortar. Match surrounding concrete surfaces in color and texture using part white Portland cement where necessary. Remove fins and irregularities in exposed concrete; patching must match adjoining surface and approved sample.

**\*\*\*END OF SECTION\*\*\***

**SECTION 03100**  
**CONCRETE FORMWORK**

**PART 1 -- GENERAL**

1.01 DESCRIPTION

Work included: Provide formwork in accordance with provisions of this Section for cast-in-place concrete shown on the Drawings or required by other Sections of these Specifications.

1.02 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. Design of formwork is the Contractor's responsibility.
- C. Standards: In addition to complying with pertinent regulations of governmental agencies having jurisdiction, comply with pertinent provisions of ACI 347.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

1.04 SUBMITTALS

- A. In accordance with Article 5 of the General Conditions, Project Manual Section 00700.
- B. Product data: Within 35 calendar days after the Contractor has received the Owner's Notice to Proceed, submit manufacturers' data and installation instructions for propriety materials including form coatings, ties, and accessories and manufactured systems if used.

**PART 2 -- PRODUCTS**

2.01 FORM MATERIALS

- A. Except for metal forms, use new materials, Materials may be re-used during progress of the Work, provided they are completely cleaned and reconditioned, re-coated for each use, and capable of producing formwork of the required quality.
- B. For footings and foundations, use Douglas Fir boards or planks secured to wood or steel stakes, substantially constructed to shapes indicated and to support the required loads.
- C. For studs, walls, and supports, use Standard graded or better Douglas Fir, dimensions as required to support the loads but not less than 2" x 4".
- D. Wall forms:
  - 1. Exposed concrete surfaces:
    - a) Use 3/4" minimum thickness Douglas Fir plywood, grade B/B, Class I or II, exterior, sanded both sides, complying with PS-1.
    - b) Seal edges and coat both faces with colorless coating which will not affect application of applied finishes.
  - 2. Unexposed concrete surfaces:



- a) Use 1" x 6" shiplap Douglas Fir boards, surfaced one side and two edges, or 3/4" minimum thickness Douglas Fir plywood, grade B/B plyform, Class I or II, sanded both sides, mill-oiled.

## 2.02 FORM TIES

Hold inner and outer forms for vertical concrete together with combination steel ties and spreaders accepted by the Architect.

1. Space ties symmetrically in tiers and rows, each tier plumb from top to bottom and each row level.
2. At horizontal pour lines, locate ties not more than 6" below the pour lines. Tighten after concrete has set and before the next pour is made.
3. For exposed concrete surfaces, provide form ties of removable type with she-bolts equipped with permanent plugs and a system accepted by the Architect for fixing the plugs in place.

## 2.03 DESIGN OF FORMWORK

General:

1. Design, erect, support, brace, and maintain formwork so it will safely support vertical and lateral loads that might be applied, until such loads can be supported by the concrete structure.
2. Carry vertical and lateral loads to ground by formwork system and in-place construction that has attained adequate strength for that purpose.
3. Construct formwork so concrete members and structures are of correct size, shape, alignment, elevation, and position.
4. Fit forms placed in successive units for continuous surfaces to accurate alignment, free from irregularities, and within the allowable tolerance.
5. Provide formwork sufficiently tight to prevent leakage of cement paste during concrete placement. Solidly butt joints, and provide backup material at joints as required to prevent leakage and prevent fins.

## 2.04 EARTH FORMS

- A. Foundation concrete may be placed directly into neat excavations provided the foundation trench walls are stable as determined by the Architect and Structural Engineer (subject to the approval of the Office of the State Architect). In such case the minimum formwork shown on the drawings is mandatory to insure clean excavations immediately prior to and during the placing of concrete.
- B. Provide additional concrete 1" on each side of the minimum design profiles and dimensions shown on the Drawings.

## PART 3 -- EXECUTION

### 3.01 EXAMINATION

- A. Examine the areas and conditions under which work of this Section will be performed.
- B. Correct conditions detrimental to timely and proper completion of the Work.
- C. Do not proceed until unsatisfactory conditions are corrected.
- D. Beginning of installation means acceptance of conditions.

### 3.02 FORM CONSTRUCTION

A General:

1. Construct forms complying with ACI 347 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. Provide for openings, offsets, keyways, recesses, moldings, reglets, chamfers, blocking, screeds, bulkheads, anchorages, inserts, and other features as required.

B Fabrication:

1. Fabricate forms for easy removal without hammering or prying against concrete surfaces.
2. Provide crush plates or wrecking plates where stripping may damage cast concrete surfaces.
3. Kerf wood inserts for forming keyways, reglets, recesses, and the like, to prevent swelling and assure ease of removal.
4. Provide top forms for inclined surfaces where so directed by the Architect.

C Forms for exposed concrete:

1. Drill forms to suit ties being used, and to prevent leakage of cement paste around tie holes. Do not splinter forms by driving ties through improperly prepared holes.
2. Provide sharp, clean corners at intersecting planes, without visible edges or offsets. Back the joints with extra studs or girts to maintain true, square intersections.
3. Use extra studs, walls, and bracing to prevent objectionable bowing of forms between studs, and to avoid bowed appearance in concrete. Do not use narrow strips of form material which will produce bow.

D Corner treatment:

1. Unless shown otherwise, form chamfers with 3/4" x 3/4" strips, accurately formed and surfaced to produce uniformly straight lines and tight edges.
2. Extend terminal edges to required limit, and miter the chamfer strips at changes in direction.

E Locate control joints as indicated on the Drawings and where required but not shown on the Drawings, as accepted by the Architect.

F Provisions for other trades:

1. Provide openings in concrete formwork to accommodate work of other trades.
2. Verify size and location of openings, recesses, and chases with the trade requiring such items.
3. Accurately place and securely support items to be built into the concrete.

### 3.03 FORM COATINGS

Coat form contact surfaces with form coating compound before reinforcement is placed.

1. Do not allow excess form coating material to accumulate in the forms or the come in contact with surfaces which will bond to fresh concrete.
2. Apply the form coating material in strict accordance with its manufacturer's recommendations.

### 3.04 REMOVAL OF FORMS

#### A. General:

1. Do not disturb or remove forms until the concrete has hardened sufficiently to permit form removal with complete safety.
2. Do not remove shoring until the member has acquired sufficient strength to support its own weight, the load upon it, and the added load of construction.
3. Do not strip horizontal concrete in less than three days.
4. Do not strip vertical concrete in less than three days.]

#### B. Finished surfaces:

1. Exercise care in removing forms from finished concrete surfaces so that surfaces are not marred or gouged, and that corners are true, sharp, and unbroken.
2. Release sleeve nuts or clamps, and pull the form ties neatly.
3. Do not permit steel spreaders, form ties, or other metal to project from, or be visible on, any concrete surface except where so shown on the Drawings.
4. Solidly pack form tie holes, rod holes, and similar holes in the concrete. For packing, use the cement grout specified in Section 03300 of these Specifications, flushing the holes with water before packing, screeding off flush, and grinding to match adjacent surfaces.

**\*\*\*END OF SECTION\*\*\***

**SECTION 03200**  
**CONCRETE REINFORCEMENT**

**PART I -- GENERAL**

1.01 SUMMARY

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

1.02 WORK INCLUDED

- A. Reinforcing steel bars, welded steel wire fabric for cast-in-place concrete, fabricated, placed and supported, as specified herein and shown on the Drawings.
- B. Support chairs, bolsters, bar supports, spacers, for supporting reinforcement, as needed for a complete and proper installation.

1.03 QUALITY ASSURANCE

- A. Perform concrete reinforcement work in accordance with CRSI Manual of Standard Practice, and Documents 63 and 65.
- B. Conform to ACI 301 and 315.

1.04 SHOP DRAWINGS

- A. Indicate sizes, spacings, locations and quantities of reinforcing steel, wire fabric, bending and cutting schedules, splicing, stirrup spacing, supporting and spacing devices.
- B. Prepare shop drawings under seal of professional structural engineer registered in the State of California.

1.05 CERTIFICATES

- A. Submit mill test certificates of supplied concrete reinforcing, indicating physical and chemical analysis.
- B. In lieu of mill test certificate provide samples:
  - 1. Samples for physical tests of reinforcement will consist of at least two pieces, each 18" long, of each size of reinforcement steel, selected by the testing agency from material at the building site or at the fabricator's or supplier's yard.
  - 2. Material to be sampled at the building site shall have been delivered thereto at least 72 hours before it is needed.
  - 3. Where samples are taken from bundles as delivered from the mill, with the bundles identified as to heat number, and provided mill analyses accompany the report, then one tensile test and one bend test will be made from a specimen of each ten tons or fraction thereof of each size of reinforcement steel.
  - 4. Where positive identification of the heat number cannot be made, or where random samples are taken, then one series of tests will be made from each 2-1/2 tons or fraction thereof of each size of reinforcement steel.

1.06 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

1.07 SUBMITTALS

In accordance with Article 5 of the General Conditions, Project Manual Section 00700.

## PART 2 -- PRODUCTS

### 2.01 MATERIALS

- A. Reinforcing Steel: ASTM A615, 40 ksi for #4 and smaller and 60 ksi for #5 and larger yield grade billet-steel deformed bars, uncoated finish. Deformations shall conform with ASTM A305.
- B. Welded Steel Wire Fabric: ANSI/ASTM A185 plain type; in coiled rolls; uncoated finish.
- C. Stirrup Steel: ANSI/ASTM A82.
- D. Bending to conform to ASTM 318. Fabricate reinforcement in accordance with recommendations contained in CRSI "Manual of Standard Practices".
- E. Brackets for centering vertical steel shall be similar and equal to Wall-Brac as manufactured by W.C.R. Fabricators, San Clemente. (714) 492-2370.

### 2.02 ACCESSORY MATERIALS

- A. Tie Wire: Minimum 16 gage annealed type.
- B. Bolsters, chairs, spacers and other devices for spacing, supporting and fastening reinforcement in place:
  - 1. Use wire bar type supports complying with CRSI recommendations, unless otherwise shown on the Drawings.
  - 2. Do not use wood, brick or other non-complying material.
  - 3. For slabs on grade, use supports with sand plates or horizontal runners where base material will not support chair legs and to prevent vapor barrier puncture.
  - 4. For exposed-to-view concrete surfaces, where legs of supports are in contact with forms, provide supports with either hot-dip galvanized or plastic-protected legs.

### 2.03 FABRICATION

- A Fabricate reinforcing bars to conform to the required shapes and dimensions with fabrication tolerances complying with ACI 315, providing concrete cover specified in Section 03300. In case of fabricating errors, do not straighten or rebend reinforcement in a manner that will weaken or injure the material.
- B Reinforcement with any of the following defects will not be acceptable.
  - 1. Bar lengths, depths and/or bends exceeding the specified fabrication tolerances;
  - 2. Bends or kinks not shown on the Drawings;
  - 3. Bars with reduced cross-section due to excessive rusting or other cause.
- C Locate reinforcing splices not indicated on Drawings at points of minimum stress. Indicate location of splices on shop drawings.
- D Weld reinforcing bars in accordance with ANSI/AWS D1.4.
- E Reinforcement shall be clean and shall be free from oil, excessive mill scale or rust, and shall be stored on the site in such a manner as to permit easy access for proper inspection and identification.

Reinforcement shall be shop-bent to shapes and dimensions as shown and shall be placed where indicated on the Drawings or reasonably required to carry out the intent of the Drawings and Specifications. Reinforcement shall not be bent or straightened in a manner that will injure the material. Bars with kinks or bends not shown on the Drawings shall not be used.

## **PART 3 -- EXECUTION**

### **3.01 EXAMINATION**

- A. Examine the areas and conditions under which work of this Section will be performed.
- B. Correct conditions detrimental to timely and proper completion of the Work.
- C. Do not proceed until unsatisfactory conditions are corrected.
- D. Beginning of installation means acceptance of conditions.

### **3.02 INSTALLATION**

- A. Comply with the specified standards for detail and method of placing reinforcement and supports, except as may be modified herein.
- B. Clean reinforcement to remove loose rust and mill scale, earth, and other materials which reduce or destroy bond with concrete.
- C. Position, support and secure reinforcement against displacement by formwork, construction and concrete placing operations.
- D. Locate and support reinforcement by metal chairs, runners, bolsters, spacers and hangers, as required. (Such chairs or stools shall be bound, shall have squared vertical sides, and shall conform to the requirements for Grade A concrete as specified herein.)
- E. Place reinforcement to obtain minimum coverages for concrete protection.
- F. Arrange, space and securely tie bars and bar supports together with the specified tie wire.
- G. Set wire ties so twisted ends are directed away from exposed concrete surfaces.
- H. Do not displace or damage vapor barrier required by Section 03300. If vapor barrier is damaged, Contractor shall repair or replace that section to be water resistant.
- I. Install welded wire fabric in as long lengths as practicable, lapping adjoining pieces at least one full mesh.
- J. Provide sufficient numbers of supports and of strength to carry the reinforcement.
- K. Do not place reinforcing bars more than 2" beyond last leg of any continuous bar support.
- L. Do not use supports as bases for runways for concrete conveying equipment and similar construction loads.
- M. Wall steel shall be wired together at all points where bars cross. Splices in horizontal bars shall be staggered so that adjacent splices will not be less than 4 feet apart, unless shown otherwise on the Drawings.
- N. Bars shall be continuous insofar as practical.
- O. Dowels required to receive and engage subsequent work shall be of sufficient length to develop the strength of the bar and be securely set in the forms prior to placing the concrete.
- P. All stirrups shall be accurately and securely wired to the bars at both top and bottom.

### **3.03 SPLICES**

- A. Lap splices: Tie securely with the specified wire to prevent displacement of splices during placement of concrete.

- B. Splice devices:
  - 1. Obtain the Architect's approval prior to using splice devices.
  - 2. Install in accordance with manufacturer's written instructions.
  - 3. Splice in a manner developing at least 125% of the yielding strength of the bar.
- C. Do not splice bars except at locations shown on the Drawings, unless otherwise specifically approved by the Architect.
- D. In general, the reinforcing steel shall be lapped at least 30 diameters.
- E. A clear space equal to 2-1/2 diameters (and in no case less than 1-1/2") shall be maintained between the spliced bars, unless otherwise directed by the Architect.
- F. Splices shall not be made at the points of maximum stress and where made, the splices shall be lapped as indicated on the Drawings or as otherwise required to develop the strength of the bars.

#### 3.04 MASONRY REINFORCEMENT

- A. Splices for masonry wall shall lap not less than 40 bar diameters, except where otherwise shown.
- B. Vertical foundation dowels for masonry wall shall be accurately set to match reinforced masonry cells.
- C. Dowels shall not be bent after foundation concrete has been placed.

#### 3.05 WELDED WIRE FABRIC

- A. Shall be rolled out, straightened, cut to size and laid in place reasonably flat.
- B. Splices in wire mesh shall lap not less than 8 inches and shall be tied with No. 16 or 18 gauge wire at not more than 12 inches.
- C. As concrete is placed, mesh used as reinforcement for slabs on grade shall be lifted at intervals as required to insure proper embedment in the concrete.

**\*\*\*END OF SECTION\*\*\***

**SECTION 03320**  
**UNDERSLAB VAPOR BARRIER**

**PART 1 -- GENERAL**

1.01 DESCRIPTION

- A. Division 0, Contract requirements and Division 1, General Conditions apply to this section.
- B. This Section describes the requirements for furnishing and installing moisture barrier and sand under concrete slabs-on-grade.

1.02 SUBMITTALS

- A. In accordance with Article 5 of the General Conditions, Project Manual Section 00700.
- B. Product Data: Include independent laboratory test results showing compliance with ASTM and ACI Standards. Include manufacturer's installation instructions for placement, seaming, and pipe boot installation.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

1.04 PRODUCT DELIVERY, STORAGE, AND HANDLING

Protect products against damage during field handling and installation.

**PART 2 -- PRODUCTS**

2.01 MANUFACTURERS

- A. Stego Wrap Vapor Retarder by Stego Industries
- B. Vapor-Block by Raven Industries
- C. Architect approved equal

2.02 MATERIALS

- A. Vapor Retarder must have the following qualities:
  - 1. 10 mil thickness minimum.
  - 2. Permeance of 0.01 UP perms as tested by ASTM E154.
  - 3. Puncture resistance of 2,600 grams per ASTM D1709, Method B.
  - 4. ASTM E 1745 Class A (Plastics) after conditioning testing.
- B. Vapor Retarder Tape:
  - 1. Water Vapor Transmission Rate :ASTM E 96, 0.3 perms or lower
  - 2. Minimum 8-mils thick
  - 3. Minimum 4 inches wide
  - 4. Manufactured from High Density Polyethylene
  - 5. Pressure Sensitive Adhesive
- C. Pipe Boots: Construct from vapor barrier sheeting material and pressure sensitive tape in accordance with manufacturer's instructions.
- D. Sand: Clean yard sand, free from excessive dirt, debris, organic matter, and fines smaller than No. 200 sieve size.



## **PART 3 -- EXECUTION**

### **3.01 INSPECTION**

- A. Below grade and grading work and items penetrating moisture barrier shall be completed prior to start of installation.
- B. Examine the areas and conditions under which work of this Section will be performed.
- C. Correct conditions detrimental to timely and proper completion of the Work.
- D. Do not proceed until unsatisfactory conditions are corrected.
- E. Beginning of installation means acceptance of conditions.

### **3.02 INSTALLATION REQUIREMENTS**

#### **A. Vapor Barrier Sheeting:**

- 1. Install in accordance with manufacturer's instructions and ASTM E1643.
- 2. Unroll with the longest dimension parallel with the direction of the pour.
- 3. Lap vapor barrier over footings and seal to foundation walls.
- 4. Overlap joints 6-inches and seal with pressure sensitive tape.
- 5. Seal penetrations, including pipes, with pipe boot.
- 6. Penetrations through vapor barrier sheeting except for reinforcing steel and permanent utilities are not permitted.
- 7. Repair damaged areas by cutting patches of vapor barrier sheeting, overlapping damaged area 6-inches and taping all four sides with pressure sensitive tape.

#### **B. Sand Cushion:**

- 1. Provide 2-inch layer over moisture barrier, unless otherwise indicated.
- 2. Spread over surfaces required and work to fill voids; leave in stable condition with finished surfaces reasonably uniform at established grade.

**\*\*\*END OF SECTION\*\*\***

**SECTION 03300**  
**CAST-IN-PLACE CONCRETE**

**PART 1 -- GENERAL**

1.01 SUMMARY

Division 0, Contract requirements and Division 1, General Conditions apply to this section.

1.02 SCOPE OF WORK

All of the requirements of the Contract Documents apply to this Section. The work under this section includes furnishing all labor, materials and equipment and performing all operations in connection with all concrete work indicated on the Drawings, specified herein or reasonably required to complete the work.

1.03 QUALITY CONTROL

A. INSPECTION: All concrete work shall be under continuous inspection by a representative of the Owner. Concrete shall not be placed until and unless all forms, reinforcement and all embedded materials have been inspected and approved by the job inspector, nor shall concrete be placed outside of regular working hours unless satisfactory arrangements have been made with the inspector and he is available to observe.

B. TESTING: It shall be the Contractor's responsibility to determine, prior to their delivery to the job site or to the batching plant, that all materials to be incorporated into the work comply with these Specifications. All costs incurred by the Contractor in complying with the above requirements, including the cost of concrete design mixes, shall be paid by the Contractor. The Owner will do such sampling and testing of materials and concrete after their arrival at the job site or batching plant as he may deem necessary, and all costs in connection therewith will be paid by the Owner. No concrete shall be placed until test results on materials to be used have been approved by the Architect.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions, Project Manual Section 00700.

1.05 SUBMITTALS

A. In accordance with Article 5 of the General Conditions, Project Manual Section 00700.

B. Contractor shall submit all necessary Product Data and a complete list of material sources for all products to be incorporated into the project for review and approval of the Architect. The Performance of all Mix Designs shall be established either by stamped by an individual licensed to specify concrete mix designs engaged by Concrete Supplier or by break test data from at least 30 different projects for each mix design.

**PART 2 -- PRODUCTS**

2.01 CONCRETE MIX

A. All concrete mixes shall produce concrete that will work readily into corners and angles of forms and around reinforcement with the methods of placing employed on the work, but without permitting the materials to segregate or excess free water to collect on the surface.

- B. If the concrete fails to conform to these Specifications, the Architect may order a change in the mix or require that a new design mix be provided.
- C. All mixes shall be submitted to and approved by the Architect prior to placement of concrete. All concrete mixes except Class C shall be designed by an approved testing laboratory. However, multiple use of mix designs will be permitted to the extent indicated below. Mixes shall produce concrete conforming to the following requirements:
  - 1. Class A Concrete: For all concrete work except where otherwise indicated on the Drawings or specified herein.
    - a. Compressive strength at 28 days = 3000 pounds per square inch minimum
    - b. Aggregate size = 3/4 inch maximum.
    - c. Slump = 4 to 5 inches.
    - d. Reinforcing fibers: Shall be polypropylene, collated, fibrillated fibers from Fibermesh Company (615) 892-7243, or approved equal. Follow NER 284 and manufacturers requirements for installation. Only fibers designed and manufactured specifically for use in concrete and so certified shall be acceptable.
  - 2. Class B Concrete: For all slabs on grade.
    - a) Compressive strength at 28 days = 3000 pounds per square inch minimum
    - b) Portland Cement Content = 5-1/2 sacks per cubic yard.
    - c) Aggregate size = 1 inch maximum.
    - d) Water Content = Maximum water / cement ratio of 0.48.
    - e) Slump = 4-1/2 to 5-1/2 inches.
    - f) Reinforcing fibers: Shall be polypropylene, collated, fibrillated fibers from Fibermesh Company (615) 892-7243, or approved equal. Follow NER 284 and manufacturers requirements for installation. Only fibers designed and manufactured specifically for use in concrete and so certified shall be acceptable.
  - 3. Class C Concrete: For piping thrust blocks, for envelopes around conduit or piping, or such other uses as may be indicated on the drawings or specified herein.
    - a. Cement content = 4-1/2 sacks per cubic yard.
    - b. Slump - 4 to 6 inches.
    - c. Compressive strength at 28 days = 2500 pounds per square inch minimum

## 2.02 CONCRETE MATERIALS

- A. All materials shall be delivered, stored, and handled so as to prevent the inclusion of foreign material and/or damage. Packaged materials shall be delivered and stored in original packages until ready for use. Packages or materials showing evidence of damage shall be rejected.
- B. Aggregate (standard): Aggregate shall conform to the requirements of "Specification for Concrete Aggregates" (ASTM). Aggregates shall be stored and weighted separately and in a manner to avoid inclusion of foreign materials. No aggregate shall be incorporated

into the work until approved by the Architect, and the source shall not be changed after such approval without written authorization from the Architect.

- C. Aggregate (for exposed aggregate slabs and walks on grade): Aggregate shall be an approved washed, hard, smooth, well rounded local beach-line rock, passing a 3/4 inch screen and retained on a 3/8 inch screen.
- D. Cement: All cement shall conform to "Standard Specifications for Portland Cement", ASTM Designation C-150 (latest), except where otherwise specified, and shall be of Type I or Type II. The brand of cement shall not be changed during the process of the work without written approval of the Architect. Sacked cement shall be so piled as to permit tally, inspection, and identification of each shipment.
- E. Water: Water for washing aggregates and for mixing and watering concrete shall be free from oil, acids, alkali, organic or other deleterious matter. During extremely warm summer months, mixing water shall be the coolest available at the site.
- F. Expansion Joint Filler shall be performed, asphalt saturated fiberboard containing not less than 25% nor more than 50% asphalt by weight (ASTM D1751).
- G. Curing Compound shall be an approved, clear, resin base compound. Compound for use on architectural concrete surface shall be field demonstrated to be non-staining and oil and wax free before it will be approved. Compound for use on roof deck surface shall be of a type that will not affect the bond of the roofing or membrane to be used. Curing compounds shall not be used on interior slab-on-grade floors to receive low permeable flooring.
- H. Admixtures shall be Pozzoloth, of the types specified herein or, at the option of the Contractor, as may be indicated by job conditions. Admixtures shall be used only after approval by the Architect.
- I. Bond Breaking Compounds must be approved by the Architect, and shall be suitable for the casting and erection techniques used.
- J. Color Pigment shall be Davis Colors as manufactured by Frank D. Davis Co., and shall be selected from the manufacturer's standards colors. (213) 269-7311.
- K. Form Lining for pre-cast concrete shall be Burke Form Coating.
- L. Form Coating for cast-in-place architectural concrete shall be Nox-Crete Form Coating.
- M. Waterstop: Waterstop - RY; flexible material with sodium bentonite; continuous maximum lengths; recessed from joint; a minimum of 2" concrete cover; as manufactured by Volclay, American Colloid Company or approved equal.
- N. Metal Formed Construction Joints: Burke Kold Keyed Joint or approved equal for use in light traffic areas, office areas.
- O. Reinforcing fibers: Shall be polypropylene, collated, fibrillated fibers from Fibermesh Co., or approved equal. Follow NER 284 and manufacturers requirements for installation. Only fibers designed and manufactured specifically for use in concrete and so certified shall be acceptable. (615) 892-7243.

## 2.03 FORM MATERIALS

- A All forms, unless otherwise indicated on the Drawings, or specified herein, shall be of wood. Before erection, the inside surface of all wood forms shall be coated with non-staining material to seal against moisture loss. Forms for architectural concrete and forms at construction joists shall also be coated with "Nox-Crete".
  - 1. Board Form for concrete shall be 1" x 6" T & G or shipped Douglas Fir, free from loose knots, holes and irregularities. Surface irregularities of T & G or shiplap must not exceed 1/8 inch.

2. Plywood Forms shall be of five ply Douglas Fir Plywood form grade, not less than 5/8 inch thick.
  3. Curb and Slab Edge Forms may be of steel or wood.
- B Form Ties. Form ties shall be of a type that can be removed, having no part of the tie permanently embedded less than 1-1/2 inches from any concrete surface. Ties passing through exposed surfaces shall be of the removable type that are removable without spalling concrete surfaces.

#### 2.04 VAPOR BARRIER

All interior slabs shall be placed over 2" of sand over a Vapor Barrier.

1. Vapor Barrier shall be at least 3-mil "Vaporshield", a high density cross laminated poly or equal.
2. Vapor Barrier membrane shall be in as large sheets as possible with joints lapped 4-inches minimum and taped to form a watertight seal. All holes and penetrations by plumbing, conduit, etc., shall be sealed with tape and made watertight.

#### 2.05 SOIL POISONING

- A. Soil shall be treated against subterranean termites by a reliable and established, licensed termite control firm thoroughly familiar with local soils and chemicals.
- B. Contractor shall notify Architect 24 hours before application of chemicals.
- C. Apply an aqueous solution of 2% chlordane or 0.3% Dieldrin or 0.5% Aldrin as follows:
  1. Under all floor slabs within the foundation walls -- 1 gallon per 10 square feet.
  2. Along inside of foundation walls -- 2 gallons per 5 lineal feet.
  3. Along outside of foundation walls -- 1 gallon per 5 lineal feet.
- D. Chemicals under slabs shall be applied after fill is tamped and rough plumbing installed. Chemicals shall be applied not more than 24 hours before pouring concrete.
- E. Guarantee: Treatment shall remain effective for not less than 5 years. The Contractor shall furnish a written 5 year guarantee in 3 copies stating if at any time during the 5 year period ground nesting termites occur, treatment will be applied to exterminate all infestation without cost to the Owner.

### PART 3 -- EXECUTION

#### 3.01 EXAMINATION

- A. Examine the areas and conditions under which work of this Section will be performed.
- B. Correct conditions detrimental to timely and proper completion of the Work.
- C. Do not proceed until unsatisfactory conditions are corrected.
- D. Beginning of installation means acceptance of conditions.

#### 3.02 BATCHING AND MIXING

- A. Concrete, except as hereinafter, specified shall be mixed by a mechanical batch-type mixing plant. Plants shall be provided with adequate facilities for accurate measurement and control of each of the materials entering the mixer. All aggregate shall be measured by weight and stationary mixers shall be equipped with automatic apparatus for timing and for metering or measuring water. The apparatus shall have locks that will prevent

unauthorized persons from changing the adjustment thereof. Fibermesh for slabs on grade shall be mixed into the concrete at the batch plant.

- B. Any concrete that has not been placed within 90 minutes after water is first added to the batch shall be rejected.
- C. Care shall be taken to avoid contamination of architectural concrete. All equipment must be thoroughly cleaned before use and each mixer shall be thoroughly washed out prior to charging with the first batch of each type of concrete to be used in exposed finished surfaces.
- D. Approximately two thirds of the mixing water shall be added to the mixer when charging with lightweight aggregate. The aggregate and water shall then be mixed for not less than three minutes before cement and the balance of the water is added.

### 3.03 TRANSMIT MIX CONCRETE

Transmit mixed concrete shall be mixed for a period of not less than 10 minutes at a peripheral drum speed of approximately 200 feet per minute, and mixing shall be continued until discharge is completed. At least three minutes of the mixing period shall be at the job. Transit mixers shall be equipped with water measuring devices consisting of either accurately calibrated water tanks or water meters.

### 3.04 FORMS

- A. General Construction. Forms, complete with all necessary cores and molds, shall be constructed to conform to shape, line, and dimensions as indicated on the Drawings, and shall be substantial and sufficiently tight to prevent leakage of mortar. They shall be properly supported, braced and tied so as to maintain their position and shape when filled with wet concrete, and shall be removable without damage to the concrete.
- B. The limiting tolerance for thickness, misalignment, curvature, plumb and level shall be 1/4 inch plus or minus, for the surfaces shown on the Drawings; except that for concrete having a thickness of 4 inches or less, the thickness tolerance shall be plus 1/4 inch to minus 1/8 inch; for concrete in foundation walls below grade, the tolerance shall be plus 1/2 inch to minus 1/4 inch; and for footing pads the tolerance shall be plus 1 inch to minus 1/2 inch. Forms shall not be constructed more than 1 foot above any construction joint on the side of the wall from which concrete will be poured.
- C. Vertical surfaces of foundations may be formed against earth where, in the opinion of the Architect, such surfaces are suitable. Excavations for unformed concrete shall be provided with a surround consisting of 2 x 8 inch boards laid flat along the edges of the excavation and secured in place prior to placing concrete.
- D. Temporary openings shall be provided at a sufficient number of points in the form work to permit proper cleaning and inspection. No wood of any kind, either temporary or permanent, shall be used or installed inside of the forms unless otherwise indicated on the plans or as directed.
- E. Embedded Materials. Ample opportunity and full cooperation shall be given to the various trades to install their required embedded items. All embedded materials shall be securely fastened in place before placing of concrete is started. Bolts and anchors shall be attached to forms or adequate temporary supports to effectively prevent movement during placement concrete.
- F. Specific Requirements:
  - 1. Forms for Vertical Wall Closures. Forms for outside (exposed) surfaces shall be of new 5/8" plywood, free from surface irregularities. Vertical edges shall be carefully scribed to pre-cast panel edges, and joints shall be carefully caulked and finished to prevent leakage and provide a smooth form surface. Plywood shall be secured to back-up members at horizontal splices and joints shall be

filled and sanded smooth. A full length vertical 2 x 8 shall be secured against and support each edge of this (exposed outside face) form. Ties shall have removable spreader cones and be used in pairs at about 6 foot centers. Tie holes in forms for exposed faces shall be drilled 1/32" small and ties shall be inserted from the inside face to avoid splintering the contact surface. All mortar leakage in and around exposed surfaces must be prevented. Window for concrete placement shall be provided on inside (concealed) surfaces, with adequate provision for closure and for securing against displacement. Additional form ties at windows will not be permitted.

2. Forms for Bottom Wall Closures. Forms for outside (exposed faces) shall be of 2 inch lumber, plywood lined. Joints in lining shall be staggered with joints in back-up material and shall be filled and sanded smooth. Forms shall be supported in such a manner as to insure against movement and to provide a concrete surface in a plane with vertical closures. The top edge of the outside form shall be notched at 12 inches to permit the escape of air. Notches may be round, square or triangular and shall be approximately 1/2 inch deep.

### 3.05 PREPARATION FOR PLACING

Forms, soil bottoms, reinforcement and all embedded items shall be approved by the Inspector before concrete is deposited. Water and all foreign matter shall be removed from forms, excavations, and mixing and conveying equipment. Any flow of water shall be diverted with proper side drains, and shall be removed by methods which will avoid washing over freshly deposited concrete. Screeds shall be provided at all walls and not over eight feet apart in the field of slabs. All slabs shall receive a monolithic finish, unless otherwise shown on the Plans or specified herein. Alternate areas between construction joints shall be placed during any one pour. All materials, except transit-mix concrete, necessary to the placing and curing of any concrete pour shall be on the job site prior to the start of the pour.

### 3.06 HANDLING CONCRETE

- A. Conveying. Concrete shall be conveyed from mixer to forms as rapidly as practicable by a method which will prevent segregation or loss of ingredients. Belt conveyors, bucket chains, chutes or other similar equipment will not be permitted unless approved in writing by the Architect. Concrete for vertical wall closures shall be pumped into place, using equipment that will handle the specified mix without excessive water.
- B. Placing. Concrete placing shall be carried on as a continuous operation until the given unit of operation, approved by the Architect, is completed. Concrete shall be deposited as nearly as practicable in its final position to avoid flowing or rehandling. Drops of more than six feet (6') will not be permitted. It shall not be placed in such a manner as to leave accumulations of mortar on the form surfaces or reinforcement above the placed concrete. Where necessary, vertical ducts of canvas, rubber or metal shall be used in the forms. Concrete shall be uniformly distributed during the process of depositing, and in no case after deposition shall any portion be displaced in the forms more than six feet in a horizontal direction. Concrete in forms shall be deposited in uniform horizontal layers not deeper than 18". Each layer shall be placed while the previous layer is still soft. Concrete that has attained its initial set shall not be deposited in the work. No concrete shall be re-tempered nor shall any concrete be used that has stood for more than 30 minutes after the mixer has stopped or after discharge from the mixer. Concrete shall be placed in closures at bottom of wall panels in such a manner as to avoid trapping air against the outside form face.
- C. Cold Weather Placement. Concrete shall be mixed and placed only when the temperature is at least 50 degrees F., and rising.
- D. Hot Weather Placement. Concrete shall not be placed when the atmospheric temperature is above 100 degrees F and special care shall be taken for placement in temperatures over 80 degrees.

1. All materials and equipment shall be stored in the shade.
2. Shade shall be provided for all slabs to be placed or finished after 10:00 a.m.
3. Special care shall be taken to obtain the coolest mixing water available.
4. Forms to receive concrete shall be kept cool by sprinkling until the pour has started.

When atmospheric temperatures exceed 80 degrees F., and/or wind velocities exceed 5 mph, the water content of concrete shall be adjusted and a retarding agent added as directed by the Architect.

- E. **Compaction.** Concrete shall be thoroughly compacted during placement, and shall be carefully worked around reinforcement and embedded items along surfaces and into corners of forms. Except where compaction by hand-tamping is specified, it shall be placed in layers not over 18" in depth and each layer shall be compacted with internal vibration equipment supplemented by hand-spading, rodding and tamping. Vibrators shall not be used to transport concrete inside forms. There shall be at least one vibrator per ten yards of concrete placed per hour, with one spare vibrator maintained on the job. Vibrators shall not be inserted into lower courses that have begun to set, nor into solid or sand bottoms. Where hand-tamping is used, there shall be not less than one man for each five cubic yards of concrete placed per hours, whose time shall be used in tamping ONLY.
- F. **Modified Mix.** Where conditions make puddling difficult, or where the reinforcing is congested, batches may be modified with Architect's review of revised mix design.
- G. **Record of Placing.** The Contractor shall coordinate keeping of a record with the Construction Manager at the job of the time and date of placing the concrete in each portion of the structure. Such record shall be kept until the completion of the structure and shall be open to the inspection of the Architect.
- H. **Wall Closures.** Placement of concrete in vertical wall closures shall be carried out in 18-inch lifts, with concrete being pumped through form windows in the back of the form. The number of closures poured during one operation shall be limited and the rate of pour regulated so that successive lifts are placed while the lift below is still liquid, while avoiding excessive depth of liquid material in the forms. Placing of concrete shall not be started until the Contractor can be sure, beyond a reasonable doubt, of the continuous arrival of material at the pump hopper. Concrete shall be compacted by rodding along the face of the form with a piece of reinforcing steel. The length of the rod for the first pour shall equal the height of the wall. The rod shall be shortened after each lift so that it will penetrate 6 inches into the lift below. Each lift shall be worked sufficiently to insure a solid mass, but care shall be used to avoid causing segregation of coarse aggregate.

### 3.07 CONSTRUCTION JOINTS

- A Location and detail of all construction joints not shown on the Plans shall be approved by the Architect in advance of placing operations and shall conform to ACI's recommendations.
- B Existing surfaces shall be thoroughly roughened and cleaned of all laitance, foreign matter, loose particles and dust before placing new concrete. Forms shall be re-tightened, and the existing surfaces in structural concrete treated as follows, immediately ahead of concrete placement:
1. Vertical construction joints shall be washed with clean water and then slushed with a grout coat of neat cement. Form windows shall be provided as necessary for this operation.
  2. Horizontal construction joints shall be washed with clean water and, when so directed by the Architect, shall then be covered with a layer, not less than 2



inches nor more than 6 inches in thickness, of a modified mix as specified herein before. Form windows shall be provided as necessary to insure covering all joint surfaces.

- C Place formed construction joints in pattern placement sequence. Set top screed to required elevations. Secure to resist movement of wet concrete.
- D Horizontal concrete slab surfaces supporting concrete or masonry walls shall be wire brushed before hardening. Care shall be taken to avoid damage to adjoining concrete surfaces.
- E Install joint fillers in accordance with manufacturer's instructions. Use primers of type recommended by joint filler manufacturer.

### 3.08 PIPES AND CONDUITS

- A. Pipes other than conduit for electrical circuits shall not be embedded in structural concrete.
- B. Conduit Location. When placed in structural slabs, conduit shall be located within the middle half of the slab and should not be placed between reinforcing steel and the bottom of the slab. Conduit in slabs on grade shall be placed below reinforcement steel and shall be supported on concrete blocks to insure complete concrete encasement. Blocks for supporting conduit shall be as specified for the support of reinforcement bars in the section "Reinforcing Steel". When located in columns, walls or beams, conduit shall be located so that, in the opinion of the Architect, the strength of the structure is not impaired.
- C. Conduit Size. No conduit placed in a concrete slab shall have an outside diameter greater than one-third the thickness of the slab. No conduit larger than 1 inch shall be embedded in floor slabs. Larger conduit shall be below bottom surface of slabs and encased separately.
- D. Sleeves. Appropriate sleeves shall be provided for all pipe or conduit passing through any walls or floors. Sleeves shall be so located so as not to impair the strength of the structure. Openings larger than 12 inches in dimension will not be permitted unless specifically shown on the Drawings.

### 3.09 REMOVAL OF FORMS

The removal of forms shall be carried out in such a manner as to insure the complete safety of the structure and to avoid damage to concrete surfaces. In no case shall supporting forms or shoring be removed until concrete has hardened sufficiently to permit their removal with safety. Soffit forms and supports for beams, lintels and slabs above grade shall remain in place until laboratory tests show that they can be removed safely. Forms for surfaces to be sandblasted, except beam soffits, may be removed after three days, if removal can be accomplished without damage to concrete surfaces.

### 3.010 SLABS ON EARTH

- A. Placing. Concrete shall be placed in one continuous operation between construction joints after soil poisoning, vapor barrier and sand protection have been laid. Spreading by hand shall be with shovels; rakes shall not be used. Workmen shall be required to remove all dirt or mud from their footwear before stepping into freshly mixed concrete. Concrete shall be thoroughly compacted by hand tamping in such a manner as to force the larger aggregate into the body of the slab and bring to the top a minimum of free mortar. Surfaces shall be carefully screeded off after compacting, using approved screeds accurately set to the finished grade of the slab, and shall be worked to a true and even grade free from waves and irregularities.
- B. Finishing. All slabs shall receive a monolithic finish unless otherwise specified. All slab marking and jointing shall be as detailed and at locations indicated on the Drawings.

Perimeters of all slab areas and edges of all walks shall be finished with an edger unless otherwise indicated. Edging tools shall have a radius of 1/8 inch for joints and 1/4 inch for discontinuous edges unless otherwise shown. Corners or edges of slabs which have crumbled and any area which lacks sufficient mortar for proper finishing shall be corrected by removing all loose aggregate and/or soupy mortar and filling with a suitable concrete mixture. Unnecessary tool marks shall be limited and all edges and joints shall be smooth and true to line. Where tooled joints (T.J.) are indicated on the Drawings, such joints shall be formed using a marking tool with a knife extension. The total depth of depression thus formed shall be not less than 1/2 inch nor greater than 3/4 inch. Such additional scoring as may be required by the Architect shall be with a standard marking tool (without extension) and will be at approximately 4 feet each way. At the Contractor's option, saw-cut joints may be submitted for the weakened plane joints shown, except in exposed aggregate surfaces. Saw cuts must be uniform, straight, to the depth indicated for W.P. joints, and shall be made as soon as they can be made without spalling the concrete surface. Any spillage or splatter of concrete mortar on adjacent slabs or structures shall be removed immediately by flushing with water.

- C. Sealing -- Joint sealing is described in the section "Caulking".

### 3.011 CONCRETE FINISHES

- A. All exposed concrete surfaces, exterior and interior, shall be uniformly finished and shall have a surface texture as hereinafter described. Surfaces shall be free from rough spots, stains, hardened mortar or grout, and other imperfections. Cleaning and repairing of concrete surfaces shall be as directed by the Architect.
- B. Steel trowel finish shall be used for finish building floor slabs, for top surfaces of pre-cast elements and for all concrete bases and curbs except where otherwise indicated on the Drawings or specified herein.
- C. Steel troweling of floated surfaces may begin as soon as the surface has hardened enough to prevent excess fine material from working to the surface. The finished surface shall be hard and smooth and care shall be taken to minimize trowel marks and trowel "burn". Dusting will not be permitted except as hereinafter specified. Except where warped surfaces are indicated, slabs shall be finished to a true plane surface, free from humps or sags. The finished surface shall not deviate more than 1/8 inch from the edge of a 10-foot steel straightedge. Areas not conforming to the intent of these Specifications shall be corrected by grinding or measures satisfactory to the Architect.
- D. Broom finish shall be used for concrete walks and exterior slabs where so directed by the Architect. Surfaces to receive broom finish shall first be finished as specified above for steel trowel finish. Immediately after troweling, these surfaces shall be broomed uniformly as directed by the Architect, using a broom with moderately coarse, stiff bristles.
- E. Formed surfaces (finished). All exposed or painted formed surfaces, except where a steel trowel finish is required, shall be smooth and uniform. All form tie holes shall be filled, all honeycomb and other imperfections repaired and all fins removed. Rough spots, stains and hardened mortar shall be removed from all surfaces by rubbing lightly with fine carborundum stone. Water shall be used liberally and rubbing shall be sufficient only to remove defects without changing the surface texture.
- F. Formed surfaces (rough). Repair all honeycomb and fill all form tie and bolt holes in concealed concrete surfaces.
- G. Slab surfaces to receive mud-set tile shall be marked with a grid tamper to provide a suitable surface for bonding.
- H. Salt Finish: Surfaces shall be floated finish prior to application of salt. Coarse salt shall be applied to the required slab. Amount and duration shall be determined by sample.

Salt shall then be washed clean from all concrete surfaces. Adjacent broom surfaces to be protected.

- I. Samples. Prior to placing concrete in areas to receive exposed aggregate or sandblasted finishes, the Contractor shall prepare a 30" x 30" sample panel of each of these types of finishes, using the specified materials. Sample panels must be approved by the Architect, and shall match existing columns as closely as possible. The panels prepared by the Contractor shall then be used as standards for the finishes represented and shall be the basis for acceptance or rejection of these finishes.

### 3.012 PATCHING

Honeycomb, or minor defects, and hole remaining from form ties, bolts or test cores shall be patched. Mixes for use in patches in architectural concrete finishes shall consist of cement mortar and suitable aggregates that will produce patches to match the patched surface. Mortar for concealed patches shall consist of one part Portland cement and three parts fine aggregate. Exposed patch surfaces shall be finished to match the adjoining surface. Holes passing entirely through the wall shall be filled from the inside face with a device that will force the mortar through to the outside face, using a stop held at the outside wall surface to insure complete filling. Holes which do not pass entirely through the wall shall be packed thoroughly full. Concrete surfaces to be patched shall be thoroughly moist, but free of surface water at the time of patching. Patches shall be cured as specified for concrete. Only 100% portland cement materials shall be used for the patching of slabs to receive flooring.

### 3.013 DEFECTIVE CONCRETE

If any concrete does not fully conform to the provision of these specifications, such work shall be deemed to be defective materials and/or workmanship, and the Contractor shall remove same from the site, at no extra cost to the Owner. When and as directed by the Architect, defective concrete may be cut out and repaired, at no extra cost to the Owner.

### 3.014 CURING

- A. All concrete surfaces shall be effectively sealed against moisture loss or shall be kept continuously wet for a period of not less than ten (10) days. Forms containing concrete and earth fill against concrete shall be kept continuously moist by sprinkling during this period. Prior to the commencement of each concrete pour, all materials and equipment, including hoses, nozzles, etc., necessary to the curing of that concrete pour, shall be at the job site. Curing operations shall commence immediately after concrete has been placed and shall be continuous for the duration of the curing period.
- B. Floor slabs and textured exterior slabs shall be cured by wet-cure method covering with an approved burlap or membrane kept moist by periodic spraying. Edges of the membrane covering shall be lapped not less than 6 inches and shall be weighted with wind-rows of clean sand. At no time shall the membrane be allowed to dry out during the first 10 days after pouring the slab. Units shall be removed from forms as soon as possible and shall be immediately coated on the under surface and edges. Walks, curbs and smooth exterior slabs may be cured as specified for floor slabs or coated with a suitable manufacturer's instructions, and all thin spots or breaks that occur during the curing period shall be repaired by the application of additional material. Special care shall be taken to avoid coating reinforcing steel, construction joint and expansion joint surfaces with curing compound. Exposed surfaces of construction joints and expansion joints shall be cured by sealing under a building paper or by a wet blanket covering. If weather conditions are severe, and when directed by the Architect, surfaces shall be kept moist with a fine fog spray until protected as specified above.
- C. Curing water, if any shall be led away from buildings and structures, and shall not be permitted to pond within 10 feet of any construction.

### 3.015 PROTECTION

- A. All finished concrete shall be protected during the course of construction, and any chips, cracks, or other defects that occur during the course of construction to any concrete shall be repaired as may be directed by the Architect.
- B. Surfaces of architectural concrete shall be covered to protect them from spatter during placement of adjoining concrete. Strips of Vis-Queen shall be placed under the edges of exposed aggregate slabs adjacent to other concrete to be placed, and shall then be folded back over the finished surfaces to protect them.

3.016 CLEAN UP

Clean up all exposed concrete surfaces and all adjoining work which has been stained by leaking or spatter of concrete, to meet the approval of the Architect, immediately after each concrete pour.

**\*\*\*END OF SECTION\*\*\***

This page is intentionally blank.