

261



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

FROM: Economic Development Agency

SUBMITTAL DATE:
 January 28, 2010

SUBJECT: Blythe Riverside County Information Technology Communications Facility

RECOMMENDED MOTION: That the Board of Supervisors:

1. Approve the plans and specifications for the Blythe Riverside County Information Technology Communications Facility 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 Board policies.

BACKGROUND: The County of Riverside is proposing to construct an Information Technology (IT) service facility for Riverside County Information Technology (RCIT) in Blythe. The current service facility requires relocation to make room for a forthcoming PSEC tower.

Reviewed by
 CIP TEAM
 (Continued)
Christopher Hans
 Christopher Hans

Lisa Brandt
 Robert Field, Assistant County Executive Officer/EDA
 by Lisa Brandt, Assistant Director, EDA

FINANCIAL DATA	Current F.Y. Total Cost:	\$ 0	In Current Year Budget:	N/A
	Current F.Y. Net County Cost:	\$ 0	Budget Adjustment:	N/A
	Annual Net County Cost:	\$ 0	For Fiscal Year:	09/10

SOURCE OF FUNDS: RCIT Departmental Budget	Positions To Be Deleted Per A-30	<input type="checkbox"/>
	Requires 4/5 Vote	<input type="checkbox"/>

C.E.O. RECOMMENDATION: APPROVE
 BY: Jennifer L. Sargent
 Jennifer L. Sargent
County Executive Office Signature

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

MINUTES OF THE BOARD OF SUPERVISORS
 On motion of Supervisor Buster, seconded by Supervisor Stone and duly carried, IT WAS ORDERED that the above matter is approved as recommended.

Ayes: Buster, Stone, Benoit and Ashley
 Nays: None
 Absent: Tavaglione
 Date: March 16, 2010
 xc: EDA, RCIT, CIP, COB

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

Prev. Agn. Ref.: 3.33, 10/27/09; 3.32, 12/18/07
District: 4
Agenda Number: 3.24

BACKGROUND: (Continued)

The proposed project would be constructed on County owned property. The new facility will be used to service radio equipment in county vehicles within the area. The construction of the facility will require the demolition of two abandoned structures. The project will include construction of a modular above-ground building, two service bays and office area.

On October 27, 2009, the Board of Supervisors approved a professional services agreement between the County of Riverside and Holt Architects for the Blythe RCIT Communications Facility. The bid documents are now complete and Economic Development Agency (EDA) requests approval to solicit bids for construction of this project.

All costs associated with this project will be funded through RCIT Departmental Budget. EDA will return to the Board under separate cover to approve the project budget and execute any related project agreements.

SPECIFICATIONS AND CONTRACT DOCUMENTS
FOR
BLYTHE RCIT
COMMUNICATION FACILITY
PROJECT NUMBER: FM08740003924



PREPARED BY
HOLT ARCHITECTS
FOR
COUNTY OF RIVERSIDE
DEPARTMENT OF FACILITIES MANAGEMENT
DESIGN & CONSTRUCTION DIVISION
JANUARY 2010

FORM APPROVED COUNTY COUNSEL
BY: Marshall Victor DATE: 3/2/10
MARSHALL VICTOR

MAR 16 2010 3.24 PPS

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Not Used

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- 15400 - Plumbing
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DIVISION 16 -- ELECTRICAL

- 16000 - Electrical Work

*** END OF SECTION ***

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OFFICE OF
CLERK OF THE BOARD OF SUPERVISORS
1st FLOOR, COUNTY ADMINISTRATIVE CENTER
P.O. BOX 1147, 4080 LEMON STREET
RIVERSIDE, CA 92502-1147
PHONE: (951) 955-1060
FAX: (951) 955-1071

KECIA HARPER-IHEM
Clerk of the Board of Supervisors

KIMBERLY A. RECTOR
Assistant Clerk of the Board

March 31, 2010

THE DESERT-SUN
ATTN: LEGALS
PO BOX 2734
RIVERSIDE, CA 92519

VIA FAX (760) 778-4731
E-MAIL: legals@thedesertsun.com

RE: NOTICE INVITING BIDS: BLYTHE RCIT COMMUNICATIONS FACILITY

To Whom It May Concern:

Attached is a copy for publication in your newspaper for **TWO (2) TIMES on two consecutive Saturdays: April 3 and 10, 2010.**

We require your affidavit of publication immediately upon completion of the last publication.

Your invoice must be submitted to this office in duplicate, WITH TWO CLIPPINGS OF THE PUBLICATION.

NOTE: PLEASE COMPOSE THIS PUBLICATION INTO A SINGLE COLUMN FORMAT.

Thank you in advance for your assistance and expertise.

Sincerely,

Mcgil

Cecilia Gil, Board Assistant to
KECIA HARPER-IHEM, CLERK OF THE BOARD

Gil, Cecilia

From: Moeller, Charlene [CMOELLER@palmspri.gannett.com]
Sent: Wednesday, March 31, 2010 8:58 AM
To: Gil, Cecilia
Subject: RE: FOR PUBLICATION: Blythe RCIT Communications Facility

:-)

Ad received and will publish on date(s) requested.

Charlene Moeller

Public Notice Customer Service Rep.

The Desert Sun Newspaper

750 N. Gene Autry Trail, Palm Springs, CA 92262

(760) 778-4578, Fax (760) 778-4731

Desert Sun legals@thedesertsun.com

& Desert Post Weekly dpwlegals@thedesertsun.com

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NOTE: Starting on March 29th, there will be a \$10 affidavit processing fee added to the cost of each Public Notice

From: Gil, Cecilia [mailto:CCGIL@rcbos.org]
Sent: Wednesday, March 31, 2010 8:21 AM
To: tds-legals
Subject: FOR PUBLICATION: Blythe RCIT Communications Facility

Good Morning! Attached is a Notice Inviting Bids for above-mentioned project, for publication on 2 Saturdays: April 3 and 10, 2010. Please confirm. THANK YOU!

Cecilia Gil

Board Assistant to the
Clerk of the Board of Supervisors
951-955-8464

THE COUNTY ADMINISTRATIVE CENTER IS CLOSED EVERY FRIDAY UNTIL FURTHER NOTICE.
PLEASE CONSIDER THE ENVIRONMENT BEFORE PRINTING.

NOTICE INVITING BIDS

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

Blythe RCIT Communications Facility

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 Thursday, May 6, 2010** and will be promptly opened in public at said address.

Each Proposal shall be in accordance with the Plans, Specifications, and other Contract Documents dated **January, 2010** and prepared by: _____

Holt Architects

70-225 Highway 111, Suite D
Rancho Mirage, CA 92270
Phone: 760-328-5280

Plans & Specifications and Plan Holders List are available for purchase by contractors beginning April 3, 2010 at:

OCB Reprographics
77734 County Club Drive, Suite G
Palm Desert, CA 92211
www.ocbinc.com
Phone: 760-772-9794

Notice of Award will be available at Planwell at OCB Reprographics. www.ocbinc.com

REQUEST FOR INFORMATION:

Contact: Holt Architects

Avenue to send RFI: All RFI's should be emailed to jdl@holtarchitects.net & nieves@holtarchitects.net, or they may be faxed to 760-328-5281. RFI's will not be answered via phone calls or any other means. **Deadline for RFI's is 5:00 PM on Wednesday, April 28th, 2010.**

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 Contractor will be required per Public Contract Code §3300 and for this project, to have a State of California contractor's license classification **B**. A mandatory pre-bid conference will be held on **April 19, 2010 at 12:00 pm, meeting at 249 N. Spring St. in Blythe, CA.**

Technical questions shall be addressed to Holt Architects, at the address and telephone listed above. For further information, contact Dane Winkelman at the Department of Economic Development Agency, located at 3403 10th St., Suite 500, Riverside, CA 92507-4199 whose telephone number is (951) 955-0394.

Dated: March 31, 2010

Kecia Harper-Ihem, Clerk of the Board
By: Cecilia Gil, Board Assistant

NOTICE INVITING BIDS

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

BLYTHE RCIT COMMUNICATIONS FACILITY

The Blythe RCIT Communications Facility will be an approximately 9,624 SQ. FT building intended for communications equipment repairs.

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 ____ am on ____ 2010 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

Holt Architects
70-225 Highway 111, Suite D
Rancho Mirage, CA 92270
Phone: 760-328-5280

Plans and Specifications may be obtained from:

OCB Reprographics
77734 County Club Drive, Suite G
Palm Desert, CA 92211
www.ocbinc.com
Phone: 760-772-9794

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.

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 _____ 2010 at _____ a.m., meeting _____, California. **No bids will be accepted from**

bidders who have not attended the pre-bid job walk.

For further information, contact Dane Winkelman at the **Economic Development Agency**, located at 3403 10th St. Suite 400, Riverside, CA 92507 whose telephone number is (951) 955-0394.

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. Plans and Specifications may be obtained from OCB Reprographics, 77734 Country Club Drive, Suite G, Palm Desert, CA 92211, www.ocbinc.com, (760) 772-9794.
- 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.
- J. **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 Blythe Animal Shelter, 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 _____ 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: _____

Affix Seal
If
Corporation

Telephone No.: _____

Contractor's License No.: _____

Classification: _____ Expiration Date: _____

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.

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 _____, 2010, 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

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**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.)

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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.

[Name of Bidder]

Signature

Title of Person Signing

A BID WILL NOT BE CONSIDERED UNLESS THIS AFFIDAVIT IS COMPLETED AND EXECUTED, INCLUDING THE AFFIDAVIT OF THE NOTARY AND THE NOTARY SEAL

Attach Notary Acknowledgement.

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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 Director of Department of Facilities Management 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 COUNTYS 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 Certificate(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, Specials 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 \$500.00 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 Director of Facilities Management in the manner and amounts specified by Board Policy B-11.
 - c. By written authorization, issued by the Director of Facilities Management, 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 Department of Facilities Management 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.

1. 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.

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AGREEMENT FORM

THIS AGREEMENT, entered into this _____ day of _____, 2010, 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 **Blythe RCIT Communication Facility, Project Number: FM08740003924**. In strict accordance with the Plans and Specifications dated January 2010 prepared by Holt Architects & 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 Two Hundred & Ten (210) 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 alternates: ____, ____, _____. 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: _____

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

Affix Seal
If
Corporation

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 _____, 2010 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 _____ 2010.

(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

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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 _____, 2010 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 _____, 2010.

(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)

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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 *****

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SECTION 01040
PROJECT COORDINATION

PART 1 -- GENERAL

1.01 SUMMARY

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

1.02 DESCRIPTION

- A. Provide coordination required to ensure orderly progress and timely completion of the Work in conformance with the reviewed design and schedule.
- B. Interfacing: It shall be solely the responsibility of the Contractor to make sure that each Subcontractor completes in a timely manner the assigned Work and that interfaces are prepared, are connected, and function as required.

1.03 QUALITY ASSURANCE

- A. Familiarity with Contract Documents:
 - 1) Contractor and Subcontractors shall conduct a study necessary to become completely familiar with requirements. Applicable requirements indicated or described in the Contract Documents, and the publications referred to, are a part of the Work required as though repeated in each such Section.
 - 2) In the event discrepancies or conflicts are encountered, notify the Architect immediately. Where there is a discrepancy between different parts of the Contract Documents, including referenced codes and standards, the documents requiring the higher quality, the greater quantity, or the more difficult Work shall govern, unless determined otherwise by the Architect.
 - 3) Promptly distribute required information to parties concerned and ensure the needed actions are taken.
- B. Reporting: The Contractor's data transmittals to the Architect for the Architect's review, unless otherwise noted by the Contractor in his transmittals, will be construed as stipulating that the Contractor has thoroughly and completely reviewed and coordinated the data prior to transmittal.

1.04 REQUEST FOR INFORMATION

- A. The General Contractor shall plan, schedule, coordinate and sequence Work so "Request for Information" (RFI's), if necessary, may be submitted to the Architect in a timely manner so as not to delay progress of Work. Submission of and responses to RFI's, with copies to Owner, shall be transmitted via FAX equipment.
- B. No RFI will be answered until Contractor submits a "Construction Schedule". The Construction Schedule shall be based on the Specification Sections. The Construction Schedule shall establish starting and ending dates for Work in each Section. The Construction Schedule shall be updated monthly and delivered to Architect and Owner at the "Request for Payment" meeting. If Architect and Owner do not receive the Construction Schedule by that date, Architect's response to pending RFI's will be delayed by the same number of days as the days the Construction Schedule is late.
- C. The Architect shall endeavor to respond to a RFI within five (5) working days after receipt of RFI. If RFI requires consultant's acknowledgment, an additional five days shall be allowed for review. The Contractor shall accommodate this time frame in his timely submission of RFI's.

- D. No damages for delay due to RFI response beyond allotted time will be allowed, unless Contractor can show that RFI was not foreseeable with proper planning, scheduling, coordination, and sequencing and the Architect's late response delayed timely purchase or delivery of equipment or material, or limited construction personnel from proceeding with their task(s), within previously listed Construction Schedule activity period(s).

PART 2 -- PRODUCTS

(None required)

PART 3 -- EXECUTION

3.01 PLANNING THE WORK

By thorough advance planning of activities, coordinate the following in addition to other coordination activities required:

1. Materials, services, and equipment purchasing.
2. Shipping.
3. Receipt and storage at the site.
4. Installation, including interface with related items.
5. Inspection and testing, to the extent required under the Contract.
6. Assistance in initial start-up and operational tests.
7. Completion of the Work, including removal and disposal of Contractor's surplus material and equipment, and final cleaning of structures and sites.

3.02 METHODS

Coordination methods, means and techniques used by the Contractor are at the Contractor's option, except that the Architect may disapprove Work completed by the Contractor or data submitted by the Contractor when, in the Architect's judgment, coordination has been inadequate to ensure the specified quality.

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

SECTION 01045
CUTTING AND PATCHING

PART 1 -- GENERAL

1.01 SUMMARY

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

1.02 DESCRIPTION

A. Work Included: This Section establishes general requirements pertaining to cutting (including excavating), fitting, and patching of the Work. The Contractor shall do all cutting, fitting, or patching of Work as required to make its several parts come together properly and fit to receive or be received by work of other contractors shown upon, or reasonably implied by, the drawings and specifications for the completed structure as Architect may direct. In addition, the Contractor shall do the following:

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

B. All cost caused by defective or ill-timed work shall be borne by Contractor.

C. Contractor shall not endanger any work by cutting, excavating, or otherwise altering work and shall not cut or alter work of any other contractor except with consent of Architect.

D. 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. In addition to other requirements specified, upon the Architect's or Owner's request uncover work to provide for inspection of the covered work, and remove samples of installed materials for testing.

1.03 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.

1.04 SUBMITTALS

Request for Architect's consent:

1. Per Article 5 of the General Conditions.
2. Prior to cutting which effects structural safety, submit written request to the Architect for permission to proceed with cutting. Obtain Structural Engineer approval prior to cutting.
3. Should conditions of the Work, or schedule, indicate a required change of materials or methods for cutting and patching, so notify the Architect and secure his written permission and the required Change Order prior to proceeding.

PART 2 - PRODUCTS

2.01 MATERIALS

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

PART 3 -- EXECUTION

3.01 SURFACE CONDITIONS

A. Inspection:

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

B. Discrepancies:

1. If uncovered conditions are not as anticipated, immediately notify the Architect and secure needed directions.
2. Do not proceed until unsatisfactory conditions are corrected.

3.02 PREPARATION PRIOR TO CUTTING

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

3.03 PERFORMANCE

Perform required excavating and backfilling as required under pertinent other Sections of these Specifications.

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

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

SECTION 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 complaint. 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 5.3 of the General Conditions.

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: (Per Article 5 of the General Conditions):
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*****

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SECTION 01055
FIELD ENGINEERING

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 such field engineering services as are required for proper completion of the Work, including, but not necessarily limited to:

1. Layout of Building.
 - a. Contractor shall engage a licensed engineer to lay out and establish all construction and building lines and to establish finish floor elevations, finish grades, and all other construction grades.
 - b. All benchmarks shall be substantially established by the Contractor, who shall protect and maintain them in place for the duration of the Contract, or until such time as the Architect authorizes the removal.
2. Establishing and maintaining lines and levels.
3. Structural design of shores, forms, and similar items provided by the Contractor as part of his means and methods of construction.

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, Special Conditions, and Sections in Division 1 of these Specifications.
2. Additional requirements for field engineering also may be described in other Sections of these Specifications.
3. As described in the General Conditions, the Owner will furnish survey describing the boundaries of the property.

1.03 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.

1.04 SUBSTITUTIONS

Substitutions will be considered per Article 5.3 of the General Conditions.

1.05 SUBMITTALS

A. Per Article 5 of the General Conditions.

B. Upon request of the Architect, submit:

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

1.06 PROCEDURES

In addition to procedures directed by the Contractor for proper performance of the Contractor's responsibilities:

1. Locate and protect control points before starting work on the site.
2. Preserve permanent reference points during progress of the Work.
3. Do not change or relocate reference points or items of the Work without specific acceptance from the Architect.
4. Promptly advise the Architect when a reference point is lost or destroyed, or requires relocation because of other changes in the Work.
5. Upon direction of the Architect, require the field engineer to replace reference stakes or markers.
6. Locate such replacements according to the original survey control.

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

SECTION 01150
CHANGE ORDER PROCEDURE

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

B. Related work:

1. Documents affecting work of this Section include, but are not necessarily limited to, Special Conditions, and Sections in Division 1 of these Specifications.
2. Changes in the Work are described further in the Special Conditions.

1.03 QUALITY ASSURANCE

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

1.04 SUBMITTALS

- A. Per Article 5 of the General Conditions.
- B. Make submittals directly to the Architect.
- C. Submit the number of copies called for under the various items listed in this Section.

1.05 PRODUCT HANDLING

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

1.06 PROCESSING CHANGES INITIATED BY THE OWNER

A. Should the Owner contemplate making a change in the Work or a change in the Contract Time of Completion, the Architect will issue a "Change Order Request" to the Contractor.

1. Change Order Request will be dated and will be numbered in sequence.
2. The Change Order Request will describe the contemplated change, and will carry one of the following instructions to the Contractor:
 - a. Make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion.
 - b. Make the described change in the Work, credit or cost for which will be determined in accordance with the Special Conditions.
 - c. Promptly advise the Architect as to credit or cost proposed for the described change. This is not an authorization to proceed with the change.

B. If the Contractor has been directed by the Architect to make the described change in the Work at no change in the Contract Sum and no change in the Contract Time of Completion, but the Contractor wishes to make a claim for one or both of such changes,

the Contractor shall proceed with the change and shall notify the Architect.

- C. If the Contractor has been directed by the Architect to promptly advise him as to credit or cost proposed for the described change, the Contractor shall:
 - 1. Analyze the described change and its impact on costs time.
 - 2. Secure the required information and forward it to the Architect for review.
 - 3. Meet with the Architect as required to explain costs and when appropriate, determine other acceptable ways to achieve the desired objective.
 - 4. Alert pertinent personnel and subcontractors as to the impending change and, to the maximum extent possible, avoid such work as would increase the Owner's cost for making the change, advising the Architect in writing when such avoidance no longer is practicable.

1.07 PROCESSING CHANGES INITIATED BY THE CONTRACTOR

- A. Should the Contractor discover a discrepancy among the Contract Documents, or other cause for suggesting a change in the Work, a change in the Contract Sum, or a change in the Contract Time of Completion, he shall notify the Architect.
- B. Upon agreement by the Architect that there is reasonable cause to consider the Contractor's proposed change, the Architect will issue a Change Order Request in accordance with the provisions described above.

1.08 PROCESSING CHANGE ORDER REQUEST

- A. Make written reply to the Architect in response to each Change Order Request.
 - 1. State proposed change in the Contract Sum, if any.
 - 2. State proposed change in the Contract Time of Completion, if any.
 - 3. Clearly describe other changes in the Work required by the proposed change, or desirable therewith, if any.
 - 4. Include full back-up data such as subcontractor's letter of proposal or similar information.
 - 5. Submit this response in single copy.
- B. When the Owner and Contractor have agreed upon a cost or credit for a proposed change, then Architect will issue a "Change Order" to the Contractor.

1.09 PROCESSING CHANGE ORDERS

- A. Change Orders will be dated, numbered in sequence
- B. Each Change Order shall include the following information:
 - 1. A detailed description of the change required, with back-up documentation (Change Order Request, Change Order Request, cost data, letters, etc.).
 - 2. The reason for the change.
 - 3. Who requested the change.
 - 4. The dollar amount of each item (add or deduct).
- C. The Owner and Architect shall review and sign the Change Orders.
- D. The Architect will issue the required number of copies (minimum of three) of each Change Order to the Contractor. The Contractor promptly shall sign all copies and return them to the Architect.

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

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 SUBMITTALS

- A. Per Article 5 of the General Conditions.
- 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 *****

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SECTION 01310
CONSTRUCTION SCHEDULES

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 assure adequate planning and execution of the Work so that the Work is completed within the number of Calendar days allowed in the Contract, and to assist the Architect in appraising the reasonableness of the proposed schedule and in evaluating progress of the Work, prepare and maintain the schedules and reports described in this Section.

B. Related work:

1. Construction period: According to Form of Agreement between Owner and Contractor.

C. Definitions:

1. "Day," as used through the Contract unless otherwise stated, means "Calendar Day."

1.03 QUALITY ASSURANCE

A. Employ a scheduler who is thoroughly trained and experienced in compiling construction schedule data, and in preparing and issuing periodic reports as required below.

B. Perform Data Preparation, Analysis, Charting, and updating in accordance with standards accepted by the Architect.

C. Reliance upon the accepted schedule:

1. The construction schedule as accepted by the Architect will be an integral part of the Contract and will establish interim completion dates for the various activities under the Contract.

2. Should any activity not be completed within 15 days after the stated scheduled date, the Owner shall have the right to require the Contractor to expedite completion of the activity by whatever means the Owner deems appropriate and necessary, without additional compensation to the Contractor.

3. Should any activity be 30 days or more behind schedule, the Owner shall have the right to perform the activity or have the activity performed by whatever method the Owner deems appropriate.

4. Contractor shall reimburse any costs incurred by the Owner and by the Architect in connection with expediting construction activity under this Article.

5. If it is expressly understood and agreed that failure by the Owner to exercise the option either to order the Contractor to expedite an activity or to expedite the activity by other means shall not be considered to set a precedent for any other activities.

1.04 SUBMITTALS

A. Per Article 5 of the General Conditions.

B. Preliminary analysis: Within seven calendar days after the Contractor has received the

Owner's Notice to Proceed, submit one reproducible copy and four prints of a preliminary construction schedule prepared in accordance with Part 3 of this Section. This Schedule shall be reviewed at the pre-construction meeting.

- C. Construction schedule: Within 30 calendar days after the Contractor has received the Owner's Notice to Proceed, submit one reproducible copy and four prints of a construction schedule prepared in accordance with Part 3 of this Section.
- D. Periodic reports: At the time of Application for Payment for each month following the submittal described in Paragraph 1.03-C above, submit four prints of the construction schedule updated as described in Part 3 of this Section.

PART 2 -- PRODUCTS

2.01 CONSTRUCTION ANALYSIS

- A. Graphically show by bar chart the order and interdependence of all activities necessary to complete the Work, and the sequence in which each activity is to be accomplished, as planned by the Contractor and his project field superintendent in coordination with all subcontractors whose work is shown on the diagram.
- B. Include, but not necessarily limit indicated activities to:
 - 1. Project mobilization.
 - 2. Submittal and review of Shop Drawings and Samples.
 - 3. Procurement of equipment and critical materials.
 - 4. Fabrication of special material and equipment, and its installation and testing.
 - 5. Final clean up.
 - 6. Final inspecting and testing.
 - 7. All activities by the Architect that effect progress, required dates for completion, or both, for all and each part of the Work.

PART 3 -- EXECUTION

3.01 PRELIMINARY ANALYSIS

- A. Contents:
 - 1. Show all activities of the Contractor under this Work for the period between receipt of Notice to Proceed and submittal of construction schedule required under Paragraph 1.03-C above.
 - 2. Show the Contractor's general approach to remainder of the Work.
 - 3. Show cost of all activities scheduled for performance before submittal and acceptance of the construction schedule.
- B. Submit in accordance with Paragraph 1.03-C above.

3.02 CONSTRUCTION SCHEDULE

- A. As soon as practicable after receipt of Notice to Proceed, complete the construction analysis in preliminary form, meet with the Architect, review contents of the proposed construction schedule, and make all revisions agreed upon.
- B. Submit in accordance with Paragraph 1.03-C above.

3.03 PERIODIC REPORTS

As required under Paragraph 1.03-D above, update the accepted construction schedule.

1. Indicate "actual" progress in percent completion for each activity.
2. Provide written narrative summary of revisions causing delay in the program, and an explanation of corrective actions taken or proposed.

3.04 REVISIONS

Make only those revisions to accepted construction schedule as are accepted in advance by the Architect.

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

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SECTION 01350
SUBMITTAL LOG

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 5.3 of the General Conditions.

1.03 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			
02220	Excavating, Backfilling & Compacting			
02510	Asphalt Paving			
02550	Site Concrete Work			
02580	Pavement Marking			
02660	Sewer & Water Main Construction			
02666	Water System			
02668	Fire Water System			
02720	Site Drainage			
02730	Sanitary Sewers			
02752	Asphalt Concrete Paving			
02755	Pavement Marking			
02780	Interlocking Concrete Unit Paving			
02781	Detectable Warning Surface: Precast Tactile			
02782	Detectable Warning Surface: cast-in-Place			
02792	Playground Poured-in-Place 3-part			
02830	Wrought Iron Fences & Gates			
02835	Chain Link Fences and Gates			
02860	Playground Equipment			
02870	Site Furnishings			
03100	Concrete Formwork			
03300	Cast in Place Concrete			
03320	Concrete Sealers			
03345	Concrete Finishing			

SECTION #	SECTION NAME	RECEIVED	RETURNED	RESPONSE
03410	Plant-Precast Structural Concrete Panels			
03470	Tilt-Up Precast Concrete			
04100	Mortar and Grout			
04200	Reinforced Unit Masonry System			
04220	Concrete Unit Masonry			
04270	Glass Masonry Unit System -Pittsburg Corning			
04270	Glass Masonry Unit System - Weck			
04730	Manufactured Stone Veneer			
05120	Structural Steel			
05300	Metal Deck			
05410	Metal Stud Framing			
05500	Metal Fabrications			
05720	HDI Railing Systems			
05720	Metal Stairs & Railings			
06152	Composite Decking			
06152	Timbertech			
06170	Prefabricated Structural Wood & Trusses			
06410	Casework			
06410	W.I.C. Certified Cabinet Work			
06600	Plastic Surfacing Materials			
06610	Fiberglass Planters			
07120	Waterproofing & Damproofing			
07175	Water Repellent Coatings			
07190	Anti-Graffiti Protection			
07195	Water Repellent Protection			
07210	Thermal Insulation			
07240	Exterior Insulation & Finish System (EIFS)			
07320	Tile Roofing			
07412	Corrugated Aluminum Panels			
07420	Fiberglass Reinforced Plastic Roofing & Sliding			
07500	Adhered Feltback PVC Thermoplastic			
07500	Built-Up Roofing			
07510	Silicone Polyurethane Foam Roofing			
07540	Asphalt Shingle Roofing			
07550	Standing Seam Metal Roofing			
07600	Flashing & Sheet Metal			
07720	Roof Hatches & Safety Railing			
07840	Fire Stopping			
07900	Caulking & Sealants			
08100	Metal Doors & Frames			
08200	Wood Doors & Frames			
08360	Insulated Rolling Service Doors			
08360	Rolling Service Doors			
08370	Horizontal Sliding, Accordion - Type Fire Doors			

SECTION #	SECTION NAME	RECEIVED	RETURNED	RESPONSE
08400	Aluminum Entrance & Framing Systems			
08450	Aluminum Automatic Doors			
08500	Aluminum Windows			
08620	Unit Skylights			
08710	Finished Hardware			
08800	Glazing			
08860	Sloped Glazing			
09200	Lath & Plaster			
09250	Gypsum Board Systems			
09300	Tilework			
09350	Stone Flooring			
09510	Acoustical Ceiling Tile			
09620	Weight Room Flooring			
09624	Multipurpose/Gymnasium Sport Flooring			
09645	Indoor Resilient Athletic Surfacing			
09645	Multipurpose Sports Flooring			
09650	Resilient Flooring			
09660	Fluid-Applied Flooring			
09670	Epoxy Resinous Flooring			
09670	Epoxy Floor Coating			
09680	Carpet			
09710	Acoustical Wall Panels			
09720	Fabric Wall Panels			
09720	Fiber Reinforced Polyester (FRP) Panels			
09720	High Impact Wall Covering			
09720	Wall Covering			
09742	Thin Film Epoxy Coating			
09770	Prefinished Wall Panel System			
09830	Elastomeric Coatings Sherwin Williams			
09830	Elastomeric Coatings			
09900	Painting			
10100	Project Screens			
10120	Tackboards			
10155	Metal Toilet Partitions			
10155	Laminated Plastic Toilet Partitions			
10155	Solid Polymer Toilet Partitions			
10200	Louvers			
10260	Corner & Wall Guards			
10270	Access Flooring			
10350	Flagpoles			
10400	Identifying Devices			
10410	Illuminated Directories			
10500	Metal Lockers			
10520	Fire Protection Specialties			

SECTION #	SECTION NAME	RECEIVED	RETURNED	RESPONSE
10800	Toilet & Bath Accessories			
11450	Residential Appliances			
11480	Athletic Equipment			
12345	Laboratory Casework, Lab Fixtures &			
12500	Window Treatment			
12660	Bleachers			
13100	Metal Carports			
13130	Fabric Shade Structures			
13500	Metal Building Systems			
13700	Bosch UML Series General Purpose Color LCD			
13710	Digital Video Recorders & Analog Recording			
13720	Bosch Flexidome VND-495V Series Day/Night			
14240	Hydraulic Passenger Elevators			
15400	Plumbing			
15600	HVAC			
16000	Electrical			
16721	Fire Alarm Systems			

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 12.1 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.

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 terms of the Contract be tested, 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 01420

SOILS REPORT



PRELIMINARY GEOTECHNICAL INVESTIGATION REPORT
FOR THE PROPOSED BLYTHE COMMUNICATIONS FACILITY
VACANT LOT ADJACENT NORTH OF 235 N. SPRING STREET
CITY OF BLYTHE, COUNTY OF RIVERSIDE, CALIFORNIA

Prepared for:

COUNTY OF RIVERSIDE

Department of Facilities Management
3133 Mission Inn Avenue
Riverside, California 92507-4199

MTGL Project No. 2659A22
Log No. 09-2416

November 25, 2009



**Geotechnical Engineering
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November 25, 2009

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MTGL Project No. 2659A22
Log No. 09-2416

To: County of Riverside
Department of Facilities Management
3133 Mission Inn Avenue
Riverside, CA 92507-4199

Subject: Preliminary Geotechnical Investigation Report for the Proposed Blythe Communications Facility, Adjacent North of 235 N. Spring Street, City of Blythe, County of Riverside, California

Attention: Mr. Dane Winkelman, Project Manager III


In accordance with your request and authorization, MTGL, Inc. has prepared this report for the proposed Blythe Communications Facility at the vacant lot adjacent north of 235 N. Spring Street in the city of Blythe, Riverside County, California. The purpose of this report was to provide relevant geotechnical design parameters and recommendations to aid in the design and construction of the communications facility building structure, driveway, parking lot and other associated improvements. The proposed facility building will be a one-story modular building structure supported on shallow footings. Based on results of our investigation, the proposed development is considered to be feasible with respect to the geotechnical aspects of the site provided the recommendations in this report are properly implemented during design and construction. Near surface soils have high sulfate and chloride contents that require special mix design for buried concrete. Due to very severe corrosion potential of near surface soils, buried metal pipe or metal structural elements in contact with soils should be avoided or adequately protected from corrosion, if used.

Preliminary Geotechnical Investigation
Blythe Communications Facility, Blythe, CA

MTGL Project No. 2659A22
Log No. 09-2416

We appreciate this opportunity to be of service. If you have any questions regarding this report, please do not hesitate to contact this office.

Respectfully submitted,
MTGL, Inc.


Zafar Ahmed, GE 2720
Engineering Manager



Distribution: (3) Addressee

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1.0 INTRODUCTION

1.1 Purpose and Scope

This report presents the results of our geotechnical investigation for the proposed communications facility building at the vacant lot adjacent north of 235 N. Spring Street in the city of Blythe, Riverside County, California. The purpose of this study was to evaluate the subsurface conditions with respect to the proposed project and to provide geotechnical recommendations for design and construction of a new communications facility building structure, driveway, parking lot and other associated improvements. The scope of our work included the following tasks:

- Review of published and unpublished reports and maps pertinent to seismic hazards, local and regional geology within and adjacent to the site that could impact the development.
- Perform sight reconnaissance to locate and mark the exploratory boring location. Notification of Underground Service Alert (USA) of marked boring location prior to the commencement of our field exploration and coordination for a drilling contractor.
- Subsurface exploration consisting of logging and sampling of one (1) hollow stem auger boring to a maximum depth of approximately 51.5 feet below the existing grade. Collection of bulk, relatively undisturbed ring, and Standard Penetration Test (SPT) soil samples at selected depth intervals from the borings and transportation of the samples to our laboratory for testing.
- Laboratory testing of select representative samples to characterize the engineering properties of the soils. The test results are presented in Appendix B.
- Geotechnical evaluation of the collected data and relevant engineering analyses.
- Preparation of this report summarizing our findings, conclusions, and recommendations.

This report does not address the potential for hazardous materials in the soil/ and or groundwater.

1.2 Site Description and Proposed Development

The project site is located adjacent north of 235 N. Spring Street, opposite to the City of Blythe Police Department buildings, in the city of Blythe, Riverside County, California. The site is currently vacant, relatively flat, and covered with dirt surface. Surroundings of the site consist of residential, office and commercial buildings. Site location is shown in Figure 1, Site Location Map.

The proposed development will consist of a one-story modular building structure supported on shallow footings, driveway, parking lot, utility trenches, and other associated improvements. This new building structure will be used as a communications facility for the County of Riverside. Due to relatively flat topography at the site, grading for the building pad will not consist of any cut-fill transition. Maximum depth of cut below the existing grade is anticipated to be on the order of 5 feet. No retaining structure is planned for this project.

1.3 Field Investigation

Prior to the field investigation, a site reconnaissance was performed by a staff from our office to mark the boring location and to evaluate the boring location with respect to obvious subsurface structures and access for the drilling rig. USA was then notified of the marked location for utility clearance.

Our subsurface investigation was performed on November 6, 2009. One (1) boring was advanced to a depth approximately 51.5 feet utilizing a Mobile B-61 truck-mounted hollow-stem auger drill rig equipped with 8-inch diameter augers. Due to presence of shallow groundwater, drilling mud (bentonite solution) was poured in the hole during drilling below the groundwater level. This mud column in the hole maintained a stabilizing hydrostatic pressure head against the upward buoyancy force at the bottom of the auger and thus prevented sample disturbance. Approximate boring location is shown on Figure 2, Boring Location Map.

The boring was logged and sampled using California Ring (Ring) and Standard Penetration Test (SPT) samplers at selected depth intervals. Samplers were driven into the bottom of the boring with successive drops of a 140-pound weight falling 30 inches. Blows required driving the last 12 inches of the 18-inch Ring and SPT samplers are shown on the boring logs in the "blows/foot" column (Appendix A). SPT was performed

in the borings in general accordance with the American Standard Testing Method (ASTM) D1586 Standard Test Method. A representative bulk sample was also obtained from the upper 5 feet of the boring.

Each soil sample collected was inspected and described in general conformance with the Unified Soil Classification System (USCS). The soil descriptions were entered on the boring logs. All samples were sealed and packaged for transportation to our laboratory. After completion of drilling, borings were backfilled with soil cuttings.

1.5 Laboratory Testing

Laboratory tests were performed on representative samples to verify the field classification of the recovered samples and to determine the geotechnical properties of the subsurface materials. The following tests were performed:

- In-situ moisture content and density;
- Particle size gradation;
- Expansion Index; and
- Corrosivity suite – pH, sulfate content, chloride content and resistivity.

All laboratory tests were performed in general conformance with ASTM or State of California Standard Methods. The results of the in-situ moisture and density tests are presented on our geotechnical boring logs (Appendix A). The results of other laboratory tests are presented in Appendix B of this report.

2.0 GEOLOGIC AND SOIL CONDITIONS

2.1 Regional Geology

The project site is located in the Palo Verde Valley near the margin of the Basin and Range and Mojave Desert geomorphic provinces of southeastern California. Moreover, the site is within the Colorado River floodplain adjacent to the Colorado River.

The Colorado River Flood Plain in the Blythe area consists of approximately 100 feet of Younger (Holocene) alluvium consisting of sands, silts, clays, and some gravel. The younger alluvium is directly underlain by approximately 500 feet of older (Pliocene and Pleistocene) alluvium of soils similar to the younger alluvium. These soils are the result of several broad periods of degradation and aggradation by the Colorado River. The alluvial soils in the Blythe area reach to approximately 600 feet where the soil formation changes to a Pliocene age embankment deposit of the Gulf of California known as the Bouse Formation. This formation is composed of tufa and basal limestone overlain by interbedded clay, silt, and sand. The Bouse Formation is estimated to be 400 to 600 feet thick in this area.

2.2 Subsurface Soil Conditions

Subsurface soils as encountered during drilling consisted of young alluvial soils up to the maximum explored depth of 51.5 feet. These soils within upper approximately 25 feet consisted of light brown, loose to medium dense, fine sands and silts. Primarily sandy soils, fine to coarse-grained, light gray color, were encountered at depth below 25 feet. Detailed description of subsurface soils is presented in the boring log in Appendix A.

2.3 Groundwater

Groundwater was encountered during drilling at approximately 10 feet below the ground surface. Historic groundwater levels in the general vicinity of the project site has been reported to be about 10 feet based on groundwater level contours given in USGS Professional Paper 486G. Fluctuations in the level of the groundwater may occur due to variations in rainfall and other factors not evident at the time our measurements were made.

2.3.1 Expansion Potential

Subsurface soils at the site consist primarily of fine sands and silts up to approximately upper 25 feet below the existing grade. Laboratory test of a representative bulk soil sample at shallow depth (upper 5 feet) indicate low expansion potential (per ASTM D4829) with Expansion Index value of 25.

2.3.2 Soil Corrosion Evaluation

In general, soil environments that are detrimental to concrete have high concentrations of soluble sulfates and/or pH values of less than 5.5. Section 4.3 of ACI 318 (ACI, 2005), as referred in the 2007 CBC, provides specific guidelines for the concrete mix-design when the soluble sulfate content of the soil exceeds 0.1 percent by weight or 1,000 parts per million (ppm). The minimum amount of chloride ions in the soil environment that are corrosive to steel, either in the form of reinforcement protected by concrete cover or plain steel substructures, such as steel pipes or piles, is 500 ppm per California Test 532.

For screening purposes, one representative bulk soil sample at shallow depth (within upper 5 feet) was tested for corrosion suite (soluble sulfate, chloride, pH and resistivity). The test results are summarized in Table 1 below and also presented in Appendix B. These results indicate that the subsurface soils have "severe" soluble sulfate contents and high chloride contents. Additionally, the soils are considered to have very severe corrosion potential to buried ferrous metal based on the findings of studies presented in ASTM STP 1013 titled "Effects of Soil Characteristics on Corrosion" (February, 1989). Additional testing should be performed during construction to determine the corrosion potential of subsurface soils.

Table 1 – Laboratory Test Results of Soil Corrosivity

Boring No.	Sample Depth (feet)	pH	Sulfate (ppm)	Chloride (ppm)	Minimum Resistivity (ohm-cm)
B-1	0 -5	7.7	6,551	4,297	600

2.4 Faulting and Seismicity

This site is not located within a currently designated Alquist-Priolo Earthquake Fault Zone. Therefore, a surface fault rupture hazard evaluation is not mandated for this site (Hart and Bryant, 1999). No known active faults are mapped on the site. Based on this consideration, the potential for surface fault rupture is considered to be low at the site.

2.5 Secondary Seismic Hazards

Secondary seismic hazards for this site, generally associated with severe ground shaking, include liquefaction, landslide, tsunamis and seiches. The site is far inland, so the hazard from tsunamis is non-existent. At the present time, no water storage reservoirs are located in the immediate vicinity of the site. Therefore, hazards from seiches are considered negligible at this time.

2.5.1 Liquefaction

Liquefaction is the loss of soil strength due to a buildup of pore-water pressure during severe ground shaking. Liquefaction is associated primarily with loose (low density), saturated, fine- to medium-grained, clean cohesionless soils. As earthquake shaking progresses, soil granules are rearranged and the soil densifies within a short period of time resulting in a buildup of pore-water pressure. When pore-water pressure approaches or exceeds total overburden pressure, then soil shear strength is reduced or no longer exists, and the soil temporarily behaves similarly to a fluid. Effects of liquefaction can include sand boils, settlement and bearing capacity failures below structural foundations. Liquefaction must have all three of the following simultaneously to occur:

- Strong ground shaking,
- Shallow groundwater, and
- Loose relatively clean sands.

Based on the Riverside County General Plan Environmental Impact Report, the site is mapped within a zone of very high liquefaction susceptibility due to shallow groundwater level. However, relatively high fine contents within upper 25 feet, primarily medium dense sands below 25 feet, and low level of seismicity

at this site are likely to contain the liquefaction induced dynamic settlement to a tolerable limit during a seismic event with peak ground acceleration equivalent to 0.13g (equivalent to $S_{DS}/2.5$ per Section 1802.2.7 of the 2007 CBC).

We conducted a liquefaction analysis of the subsurface soils at the project site using the 1997 NCEER Liquefaction Workshop method using the following parameters:

- Maximum Moment, M_w of 7.0,
- Peak ground acceleration of 0.13g as discussed above, and
- Historically high groundwater level at 10 feet below the existing grade.

Our evaluations show that liquefaction induced maximum dynamic settlement at the site is anticipated to be on the order of 1 inch. Differential dynamic settlement underneath the footings of the proposed structure may be anticipated to be on the order of ½ inch over 40 horizontal feet.

Due to relatively thick non-liquefiable layer at the surface, surface manifestation of liquefaction (such as sand boils, ground fissures, etc.) is not likely at this site based on the method outlined by Ishihara (SCEC, 1999).

2.5.2 Landslides

The site topography is flat. No ground slopes exist in the vicinity of the site. Therefore, the potential for seismically induced landslides, or debris flows is considered to be nil.

3.0 CONCLUSIONS AND RECOMMENDATIONS

3.1 General

Based on our geotechnical investigation findings, it is our opinion that the site is suitable for the proposed communications facility buildings and associated improvements provided the recommendations in this report are taken into account during design and construction of the project. We did not encounter significant geotechnical constraints within the subject site that cannot be mitigated by proper planning, design, and sound construction practices. Near surface soils have high sulfate and chloride contents that require special mix design for buried concrete. Due to very severe corrosion potential of near surface soils, buried metal pipe or metal structural elements in contact with soils should be avoided or if used, should be adequately protected from corrosion.

Presented herein are our recommendations for site grading, foundation design, retaining walls, pavement, and construction considerations for the project. The geotechnical consultants should review the foundation plans and specifications to verify that the recommendations presented in this report have been properly incorporated.

3.2 Earthwork

Earthwork is expected to consist of overexcavation of loose and/or disturbed soils and placement of fill soils for the building structure, driveway, pavement areas, concrete flatworks, utility trenches and other associated improvements. Recommendations for site earthwork are provided in the following subsections.

3.2.1 Site Preparation

Prior to construction, the site should be cleared of all debris and remnants of previous construction, if any, that interfere with the proposed construction. Any existing utility and irrigation lines should be removed if they interfere with the proposed construction. The cavities resulting from removal of utility lines and any buried obstructions should be properly backfilled and compacted as recommend in Section 3.2.5 of this report.

3.2.2 Excavation of Site Soils

Based on our observations during subsurface investigation and results of laboratory tests, the soils at the site should be readily excavated by conventional earthmoving equipment. Excavations should be laid back or shored in accordance with OSHA requirements before personnel are allowed to enter. It is the contractor's responsibility to ensure the stability of cuts, and the safety of excavation.

3.2.3 Dewatering

We understand that no subterranean structure or deep excavation is planned for this project at this time. Our recommend overexcavation limits are not anticipated to encounter shallow groundwater at this site. Therefore, dewatering is not anticipated during construction. However, if localized dewatering is required for utility installation, the contractor should consider the dewatering effects on adjacent structures. Discharge of groundwater should comply with all environmental regulations.

3.2.4 Overexcavation

Building Footprint Area - Overexcavation within the building footprint area should extend a minimum of 5 feet below the existing grade or 3 feet below the footing bottoms, whichever is greater. Laterally, the overexcavation should extend a minimum of 5 feet beyond the outer edges of the footings.

Driveway, Pavement, Flatworks - Overexcavation for driveway, pavements, and concrete flatworks should extend a minimum of 18 inches below the pavement's structural section (asphalt/concrete and the base layers). Laterally, these overexcavations should extend a minimum of 18 inches beyond the pavement and flatwork edges, wherever not constrained by the property limit and/or any existing structures.

3.2.5 Fill Placement and Compaction

Upon removal, overexcavation bottoms should be observed by the geotechnical consultant prior to placement of fill soils. If soft, yielding, or unsuitable soils are exposed, overexcavation should extend deeper to competent soils. Competent

removal bottom should have a minimum dry density of 85 pcf or a minimum relative compaction of 85 percent (per ASTM D1557).

Prior to fill placement, overexcavation bottom should be scarified to a minimum depth of 6 inches, moisture-conditioned, and recompacted to a minimum of 90 percent relative compaction (per ASTM D1557). All fill soil should be placed in loose lifts of 6 to 8 inches in thickness, moisture-conditioned to above the optimum-moisture content, and properly compacted. Fill soils underneath the building structure, concrete flatworks, any non-pavement structural improvements, and below 12 inches of the finish subgrade underneath pavements should be placed to a minimum of 90 percent relative compaction. Fill soils within upper 12 inches of the pavement subgrade should be compacted to a minimum of 95 percent relative compaction. Aggregate base should be compacted to a minimum of 95 percent relative compaction. These relative compactions are based on the maximum dry density per ASTM D1557.

3.2.6 Fill Materials

Onsite soils free of organics, debris and oversize particles (e.g., cobbles, rubble, etc. with maximum dimension less than 3 inches) are suitable to be used as fill. Any imported soils should have an Expansion Index less than 21 (per ASTM D4829). Import soils should be evaluated and tested by our firm to confirm the quality of the material.

3.3 Seismic Design Parameters

Based on our field exploration data, this site may be classified as Site Class D per Section 1613.5.2 of the CBC 2007. Seismic design parameters for this site based on general ground motion analysis, according to Section 1613.5 of the CBC 2007, are presented in Table 2. These parameters should be considered as the minimum for the seismic analysis of the subject site. Additional seismic analyses may be necessary based on structural requirements.

Table 2 – Seismic Design Parameters (CBC, 2007)

Categorization/Coefficient	Design Value
Site Class	D
Mapped MCE Spectral Acceleration for Short (0.2 Second) Period, S_S	0.31g
Mapped MCE Spectral Acceleration for a 1-Second Period, S_1	0.19g
Short Period (0.2 Second) Site Coefficient, F_a	1.55
Long Period (1 Second) Site Coefficient, F_v	2.04
Design (5% damped) Spectral Response Acceleration for Short (0.2 Second) Period, S_{DS}	0.32g
Design (5% damped) Spectral Response Acceleration for a 1-Second Period, S_{D1}	0.26g

3.4 Foundation Design

Shallow spread footings (isolated columns and/or continuous wall footings) bearing on a zone of newly placed properly compacted fill can be used to support the proposed one-story communications building structure, as described in the following subsections.

Minimum Footing Dimensions and Embedment - Continuous/strip footings and isolated column footings should be embedded at least 18 and 24 inches, respectively, below the lowest adjacent grade. Footing embedments are measured from the lowest adjacent finished grade, considered as the top of interior slabs-on-grade or the finished exterior grade, excluding landscape topsoil, whichever is lower. Footings located adjacent to utility trenches or vaults should be embedded below an imaginary 1:1 (horizontal: vertical) plane projected upward and outward from the bottom edge of the trench or vault. Continuous/strip footings should have a minimum width of 18-inches, while column footings should have a minimum width of 24-inches. All footing excavations should be observed by geotechnical engineer before reinforcing steel is placed.

Allowable Vertical Bearing - For footings founded on at least 3 feet of newly placed properly compacted fill soil (as described in Section 3.2.5 of this report), an allowable vertical bearing capacity of 2,500 pounds-per-square-foot (psf) may be used for design. This allowable bearing pressure may be increased by 250 psf for each additional foot of

embedment, to a maximum vertical bearing value of 3,500 psf. These bearing values may be increased by one-third when considering short-term seismic or wind loads.

Lateral Loads - Lateral loads may be resisted by friction between the footings and the supporting subgrade. A maximum allowable frictional resistance of 0.30 may be used for design of concrete structures poured on properly compacted fill. In addition, lateral resistance may be provided by passive pressures acting against foundations poured neat against properly compacted granular fill. We recommend that an allowable passive pressure based on an equivalent fluid pressure of 250 pounds-per-cubic-foot (pcf) be used in design. These friction and passive values have already been reduced by a factor-of-safety of 1.5.

Settlement Estimates - For settlement estimates, we assumed that column loads will be no more than 100 kips, with bearing wall loads not exceeding 3 kips per foot of wall. If greater column or wall loads are required, we should re-evaluate our foundation recommendation, and re-calculate settlement estimates. Settlement of newly placed properly compacted fill materials is expected to predominantly occur during and within 60 days following fill placement. Buildings located on compacted fill soils (as recommended in Section 3.2.5) should be designed in anticipation of ½ inch of total settlement and ¼ inch of differential settlement within a 40 foot horizontal run. The majority of this settlement is anticipated to occur during construction as the load is applied. These short-term settlements and angular distortions are from imposed building loads and do not include dynamic settlements. Dynamic (liquefaction) total and differential settlements are anticipated to be on the order 1 inch and ½ inch over 40 feet, potentially in addition to the estimated static settlement.

3.5 Slabs-on-Grade

Slabs-on-grade should be placed on properly compacted subgrade or fill soils as described in the earthwork section of this report. As a minimum, we suggest that slabs be at least 5 inches thick and be reinforced with No. 4 deformed reinforcing bars at 24 inches on-center each way at mid-depth through the slab. The structural engineer should design the actual slab thickness and reinforcement based on structural load requirements. The minimum recommended steel will not prevent the development of slab cracks but will aid in keeping joints relatively tight and reduces the potential for differential movement between adjacent panels.

Care should be taken to avoid slab curling if slabs are poured in hot weather. Slabs should be designed and constructed as promulgated by the Portland Cement Association (PCA). Prior to the slab pour, all utility trenches should be properly backfilled and compacted.

In areas where a moisture-sensitive floor covering (such as vinyl, tile, or carpet) is used, a 10-mil Visqueen moisture retarder (or equivalent) should be placed between the slab and compacted subgrade. Where the barrier is used, it should be protected with 2 inches of sand placed above and below to prevent punctures and to aid in the concrete cure. Vapor barrier seams should be overlapped a minimum of 6 inches and taped or otherwise sealed.

3.6 Earth Retaining Structures

No retaining structure is planned for this project. However, short retaining wall such as buried utility vaults, aesthetic grade separation wall may be constructed at the site. Any retaining wall at this site should be designed for the lateral earth pressures presented in Table 3 provided backfill for the retaining walls consist of very low to low expansive native or import soils and appropriate drainage for backfill soils are installed. These lateral pressure values, expressed as equivalent fluid unit weight (in psf/ft or pcf), do not contain an appreciable factor of safety, so the structural engineer should apply the applicable factors of safety and/or load factors during design.

Table 3 – Lateral Earth Pressure

Loading Condition	Equivalent Fluid Unit Weight for Level Backfill (psf/ft.)
Active	40
At-Rest	50
Passive	250

If the wall can yield enough to mobilize full shear strength of backfill soils, then the wall can be designed for "active" pressure. If the wall cannot yield under the applied load, the shear strength of the soil cannot be mobilized and the earth pressure will be higher. Such walls should be designed for "at rest" conditions.

If proper drainage cannot be provided over the full height/length of the wall, additional lateral force, due to water accumulation behind the wall, should be taken into consideration for design of the wall portion retaining the undrained zone. For undrained onsite soil backfill, equivalent fluid unit weights of 85 pcf (level backfill) for active conditions, and 95 pcf (level backfill) for at-rest conditions may be used.

In addition to the above lateral pressures from retained earth, lateral pressures from other superimposed loads, such as those from adjacent structures, should be added, if the loads fall within a 1:1 projection of wall foundations. The effects of any surcharge loads should be added to the above recommended lateral earth pressures.

Retaining wall foundations should be designed as recommended in Section 3.4 of this report. All retaining walls should be provided with appropriate drainage. The outlet pipe should be sloped to drain to a suitable outlet.

3.7 Pavements

Driveway and parking lot within the project site may be constructed of flexible asphalt concrete pavement. Driveway approach to the site from N. Spring Street, trash enclosure pad and trash truck pad may be constructed of Portland Cement Concrete pavements. Preliminary design sections and for both pavement types are presented in the following subsections.

3.7.1 Asphalt Concrete Pavements

Due to predominantly fine sands and silts at shallow depths at the site, for preliminary design purpose we assumed an R-value of 15 for the soil subgrade prepared from the native soils. Considering this R-value and following the Highway Design Manual (Caltrans, 2006) guidelines, minimum asphalt pavement sections for Traffic Indices (TIs) ranging from 4 to 7 are presented in Table 4 below. R-value testing of pavement subgrade soils should be performed following the completion of site grading.

Table 4 - Asphalt Concrete Pavement Sections

Traffic Index (TI)	Minimum Asphalt Thickness (inches)	Minimum Aggregate Base ¹ Thickness (inches)
4.0	3.0	6.0
5.0	3.0	9.0
6.0	4.0	10.0
7.0	4.0	13.0

¹ Minimum design R-value of aggregate base is 78.

Aggregate base should be compacted to a minimum of 95 percent relative compaction (per ASTM D1557). Base materials should conform to Sections 200-2.2 or 200-2.4 of the *Standard Specifications for Public Works Construction* (Greenbook), 2002 edition. To reduce the potential for premature pavement distress, it is important that final pavement grade be designed and constructed such that ponding on or adjacent to the pavements is avoided. Pavement runoff should be directed to a suitable nonerosion drainage device. Landscape irrigation should not be allowed to flow into pavement subgrades.

Fill soils within upper 12 inches of the pavement subgrade and aggregate base should be compacted to a minimum of 95 percent relative compaction (per ASTM D1557). Where asphalt pavements meet concrete or existing pavements, the concrete and/or asphalt should be sprayed with an SS-1 or CSS-1 emulsion. Proper asphalt compaction next to concrete pavements, curbs, and existing pavements is important to provide a relatively impermeable contact between the two materials.

3.7.2 Portland Cement Concrete (PCC) Pavements

For preliminary planning purposes, pavement sections subject to heavy traffic, impact load from truck wheels, and truck turning locations such as driveway approach, trash corrals, trash truck apron may be constructed of Portland Cement Concrete (PCC) with a minimum thickness of 6 inches overlying a minimum of 4-inch thick aggregate base. All PCC pavement should have a minimum 28-day concrete compressive strength of 3,500 psi and have appropriate joints and saw cuts in accordance with either Portland Cement Association (PCA) or American

Concrete Institute (ACI) guidelines. Aggregate base should be placed to a minimum of 95 percent relative compaction (per ASTM D1557).

3.8 Cement Type and Corrosion Measures

Based on the laboratory test results, soluble sulfate contents of onsite soils within shallow depth (upper 5 feet) are severe (per Section 4.3 of ACI 318 (ACI, 2005)) and the chloride contents are higher than 500ppm. Consequently, Type V cement with water-cement ratio of 0.45 and a minimum compressive strength of 4,500 psi may be used for concrete in contact with on-site soils.

The resistivity test result of the site soil indicates that these soils may contain very severe corrosion potential to buried ferrous metals. As a minimum, the following corrosion mitigation measures may be considered for the site soils:

- All steel and wire concrete reinforcements should have at least 3 inches of concrete cover where cast against soil, unformed.
- Below-grade ferrous metals should be given a high-quality protective coating, such as 20-mil plastic tape, extruded polyethylene, coal-tar enamel, or Portland Cement mortar.
- Below-grade metals should be electrically insulated (isolated) from above-grade metals, by means of dielectric fittings in ferrous utilities and/or exposed metal structures breaking grade.

MTGL, Inc. does not practice in corrosion engineering. We recommend that a qualified corrosion engineer evaluate the corrosion potential on buried metal and concrete at the site to provide mitigation of corrosion effects, if further guidance is desired.

3.9 Surface Drainage

Water should be transported off the site in approved drainage devices or unobstructed swales. We recommend that the minimum flow gradient for the drainage be 1 percent for area drains and paved drainage swales, and 2 percent for unpaved drainage swales, to prevent ponding of water. Drainage swales should not be constructed within 5 feet of building structure. Irrigation adjacent to buildings should be avoided wherever possible. As an option, sealed-bottom planter boxes and/or drought resistant vegetation should be

used within 5-feet of buildings. Pavements should be separated from irrigated areas by deeply embedded concrete curbs extending below pavement base.

3.10 Trench Backfill

Utility trenches should be backfilled with compacted fill in accordance with Sections 306-1.2 and 306-1.3 of the *Standard Specifications for Public Works Construction*, ("Greenbook"), 2006 Edition.

Utility trenches can be backfilled with onsite soils free of debris, organic and oversized material (maximum size not exceeding 3 inches). However, prior to backfilling utility trenches, pipes should be bedded in and covered with either (1) a granular material that has a Sand Equivalent (SE) of 30 or greater, or (2) with Controlled Low Strength Material (CLSM) conforming to Section 201-6 of the *Standard Specifications for Public Works Construction*, ("Greenbook"), 2006 Edition. Due to relatively high amounts of silts at shallow depths, placement of bedding sand by jetting should not be allowed at this site. Bedding sands should be placed by mechanical compaction to a minimum relative compaction of 85 percent (per ASTM D1557). Native soil backfill over the pipe bedding zone should be placed in thin lifts, moisture conditioned, as necessary and mechanically compacted using a minimum standard of 90 percent relative compaction, relative to the ASTM D 1557 laboratory maximum density in paved areas. Backfill soil compaction may be reduced to 85 percent of the ASTM D 1557 laboratory maximum density only in undeveloped or landscaped areas outside of paved areas and at least 10 feet away from any improvement (e.g. structure, pavement, utility and/or drainage facility, etc.).

The upper 12 inches of trench backfill in pavement and paver areas should be compacted to a minimum of 95 percent relative compaction.

3.11 Geotechnical Observation and Testing

All grading and excavation should be performed under the observation and testing of the geotechnical consultant at the following stages:

- Upon completion of site clearing;
- During site earthwork;
- During preparation of subgrades;

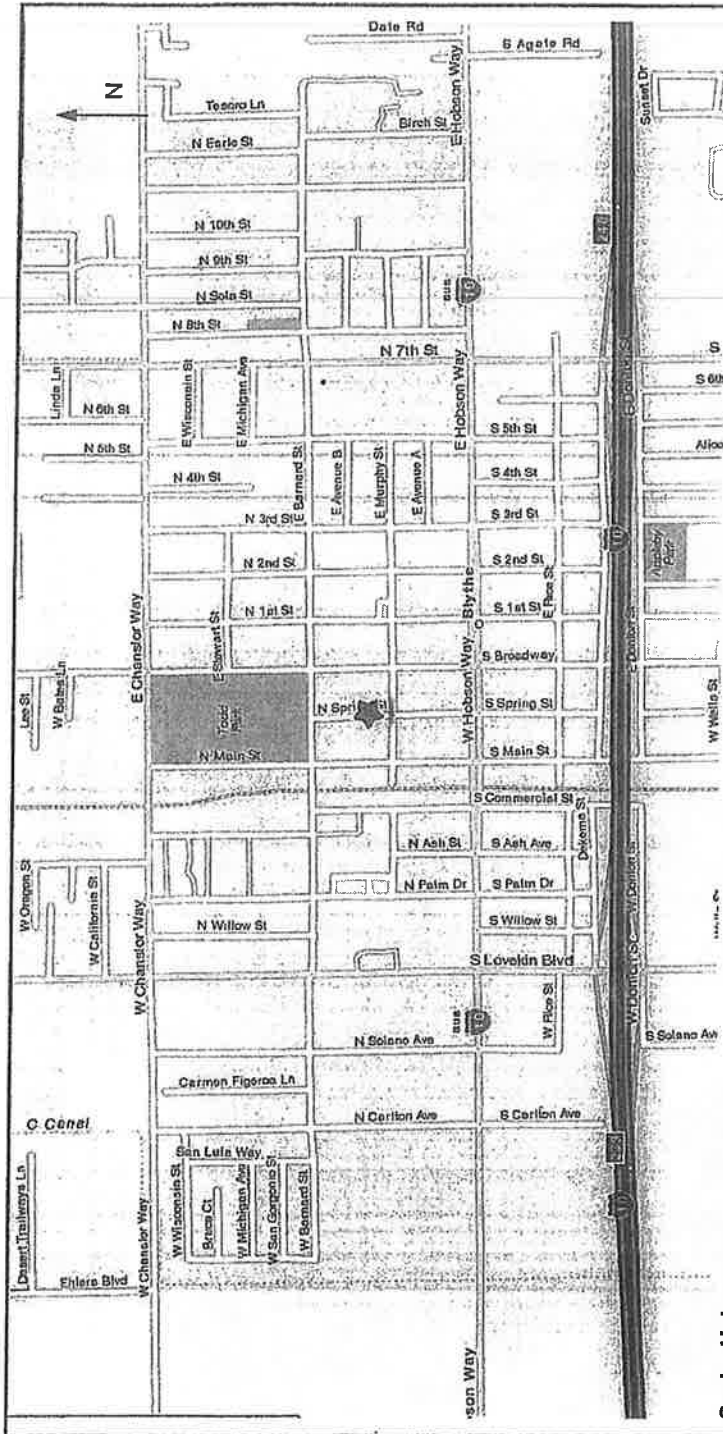
- During fill placement;
- During proof-rolling of pavement areas;
- During excavation and backfilling of all utility trenches; and
- When any unusual or unexpected geotechnical conditions are encountered.

3.12 Limitations

The conclusions and recommendations in this report are based in part upon data that were obtained from a limited number of field exploration and laboratory test results. Such information is by necessity incomplete. Changes in subsurface conditions can and do occur over time. Therefore, the findings, conclusions, and recommendations presented in this report can be relied upon only if MTGL, Inc. has the opportunity to observe the subsurface conditions during grading and construction of the project, in order to confirm that our findings are representative for the site.

4.0 REFERENCES

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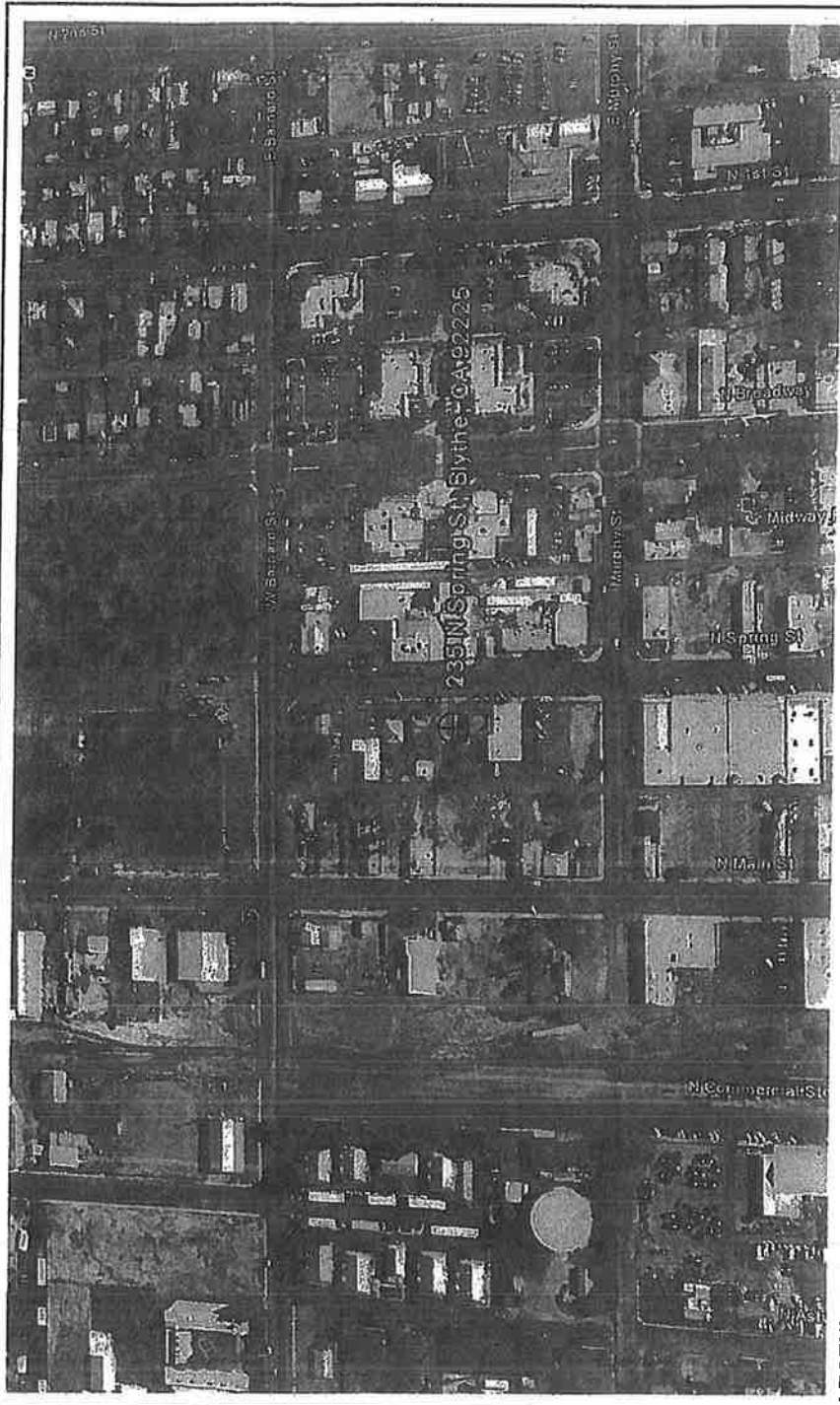


Scale: Unknown



Figure 1 – Site Location Map
Proposed Blythe Communications Facility
Adjacent North of 235 N. Spring Street, Blythe, CA

Project No. 2659A22
 Log No. 09-2416



LEGEND: ⊕ Approximate Boring Location



Figure 2 –Boring Location Map
Proposed Blythe Communications Facility
Adjacent North of 235 N. Spring Street, Blythe, CA

Project No. 2659A22
 Log No. 09-2416

APPENDIX A
Boring Logs

DATE OF DRILLING: <u>11/06/09</u> METHOD OF DRILLING: <u>8" Hollow Stem Auger</u>										
LOGGED BY: <u>ZA</u> GROUND ELEVATION: <u>N/A</u> LOCATION: <u>See Figure 2, Boring Location Map</u>										
DEPTH (FEET)	SAMPLE NUMBER	BLOWS/FOOT	RING SAMPLE	SPT SAMPLE	BULK SAMPLE	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROPOSED BLYTHE COMMUNICATIONS FACILITY ADJACENT NORTH OF 235 N. SPRING STREET, BLYTHE, CA BORING NO. <u>B-1</u>		SOIL TEST
								DESCRIPTION		
2	R-1	8				12.6	89.6	@2' - Silty Sand (SM), fine grained sand, brown, moist.	EI, Corrosion Suite	
B-1										
5	R-2	13				8.2	89.9	@ 5' - Same as above.		
10	R-3	16						@ 10' - Silty Sand (SM), fine grained sand, brown, wet, 41% fines.	Sieve Analysis	
15	R-4	32				23.2	98.4	@15' - Silty Sand (SM), fine grained sand, light brown, wet.		
20	R-5	26						@20' - Same as above.		
25	S-1	19						@ 25' - fine to coarse grained sand.		
30	S-2	7						@ 30' - Sand (SP), fine to coarse grained, light gray, wet, 3% fines.	Sieve Analysis (Samples from 30' & 35')	
35	S-3	17						@ 35' - Same as above.		
40	S-4	21						@ 40' - Same as above.		
JOB NO.: 2659A22							LOG OF BORING			



DATE OF DRILLING: <u>11/06/09</u> METHOD OF DRILLING: <u>8" Hollow Stem Auger</u>									
LOGGED BY: <u>ZA</u> GROUND ELEVATION: <u>N/A</u> LOCATION: <u>See Figure 2, Boring Location Map</u>									
DEPTH (FEET)	SAMPLE NUMBER	BLOWS/FOOT	RING SAMPLE	SPT SAMPLE	BULK SAMPLE	MOISTURE CONTENT (%)	DRY DENSITY (PCF)	PROPOSED BLYTHE COMMUNICATIONS FACILITY ADJACENT NORTH OF 235 N. SPRING STREET, BLYTHE, CA BORING NO. <u>B-1</u>	
								DESCRIPTION	SOIL TEST
45	S-5	39		<input checked="" type="checkbox"/>				@ 45' - Silty Sand (SM), fine to coarse grained, light gray, wet.	
50	S-6	28		<input checked="" type="checkbox"/>				@ 50' - Silty Sand (SM), fine grained sand, light gray, wet.	
								- Depth of boring 51.5 ft. - Groundwater encountered at 10 ft. - Borehole backfilled with soil cuttings on 11/06/09.	
JOB NO.: 2659A22							LOG OF BORING		



APPENDIX B
Laboratory Test Procedures and Test Results

Laboratory Test Procedures and Test Results

Moisture and Density Determination Tests: In situ moisture content and dry density determinations were performed, in general accordance with ASTM test methods D2216 and D2937, respectively, on relatively undisturbed samples obtained from the test borings. Results of these tests are presented in the boring logs.

Particle Size Gradation Tests: Particle size gradations of representative ring and SPT samples at different depths were determined in general accordance with ASTM test method C136. Test results are presented in this appendix.

Expansion Index Tests: Expansion Index (EI) test was performed on the representative bulk sample of the onsite soil from shallow depth in general accordance with the ASTM D 4829 Standard Test Method. Test results are presented in this appendix.

Chloride Content, Sulfate Content, Minimum Resistivity and pH Tests: Chloride content, sulfate content, minimum resistivity and pH tests of representative bulk and ring soil samples were performed in general accordance with California Test Methods 422, 417, and 532 / 643. MTGL, Inc. retained Anaheim Test Laboratory to perform these tests. Test results are presented in this appendix.



SIEVE ANALYSIS

Project Name:	Blythe Communications Facility	Tested By:	C.C.
Project No.:	2659A22	Date Tested:	9/30/2009
Client:	County of Riverside	Input By:	C.C.
Sampled By:	Zafar A.	Checked By:	Z.A.
Date Sampled:	11/6/2009	Depth (ft.):	10'
Sample Location:	B-1 @ 10'	Lab No.:	9-R312
Visual Sample Description:	Lt. Brown Fine Silty Sand	Sample No.:	R-3

	DID SPECS.	
	PASS (Y/N)?	METRIC (Y/N)?

- SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
 SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (CALIFORNIA T202)

TYPE OF SPECIFICATIONS:

SIEVE NO.	WT. RET.	% RET.	% PASS.	SPECS	Pass/Fail
2 in / 50mm	0.0	0.0%	100.0%		
1 1/2 in / 37.6mm	0.0	0.0%	100.0%		
1 in / 25mm	0.0	0.0%	100.0%		
3/4 in / 19mm	0.0	0.0%	100.0%		
1/2 in / 12.5mm	0.0	0.0%	100.0%		
3/8 in / 9.5mm	0.0	0.0%	100.0%		
#4 / 4.75mm	0.0	0.0%	100.0%		
#8 / 2.26mm	0.8	0.2%	99.8%		
#16 / 1.18mm	2.6	0.6%	99.2%		
#30 / 600um	2.7	0.7%	98.5%		
#50 / 300um	1.6	0.4%	98.1%		
#100 / 150um	16.7	4.1%	94.0%		
#200 / 75um	216.3	53.3%	40.64%		
Pan	36.8				
Total	277.5				

		MOISTURE	
WBW (Wet)	502.7	WW:	360.0
WBW (Dry)	405.5	DW:	290.4
WAW	277.5	Moist.	24.0
% LOSS	31.57	F.F.	

Classification: _____

Notes: _____



SIEVE ANALYSIS

Project Name:	Blythe Communications Facility	Tested By:	C.C.
Project No.:	2659A22	Date Tested:	11/17/09
Client:	County of Riverside	Input By:	C.C.
Sampled By:	Zafar A.	Checked By:	Z.A.
Date Sampled:	11/6/2009	Depth (ft.):	30-35'
Sample Location:	B-1 @ 30'-35'	Lab No.:	9-R312
Visual Sample Description:	Lt. Brown Fine Silty Sand	Sample No.:	S-2&S-3

	DID SPECS.	
SPECS	PASS (Y/N)?	METRIC (Y/N)?

- SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (ASTM C136/C117)
- SIEVE ANALYSIS OF FINE AND COARSE AGGREGATES (CALIFORNIA T202)

TYPE OF SPECIFICATIONS:

SIEVE NO.	WT. RET.	% RET.	% PASS.	SPECS	Pass/Fail
2 in / 50mm	0.0	0.0%	100.0%		
1 1/2 in / 37.5mm	0.0	0.0%	100.0%		
1 in / 25mm	0.0	0.0%	100.0%		
3/4 in / 19mm	0.0	0.0%	100.0%		
1/2 in / 12.5mm	0.0	0.0%	100.0%		
3/8 in / 9.5mm	7.2	1.4%	98.6%		
#4 / 4.75mm	3.1	0.6%	98.0%		
#8 / 2.26mm	2.5	0.5%	97.5%		
#16 / 1.18mm	4.1	0.8%	96.7%		
#30 / 600um	14.3	2.8%	93.9%		
#50 / 300um	265.2	51.9%	42.0%		
#100 / 150um	175.0	34.2%	7.8%		
#200 / 75um	25.5	5.0%	2.82%		
Pan	0.8				
Total	497.7				

		MOISTURE	
WBW (Wet)	623.6	WW:	643.6
WBW (Dry)	511.3	DW:	527.7
WAW	497.9	Moist.	22.0
% LOSS	2.62	F.F.	

Classification: _____

Notes: _____



EXPANSION INDEX

ASTM D 4829-08 / U.B.C. 18-2

Project Name:	<u>Blythe Communications Facility</u>	Tested By:	<u>J.H.</u>
Project No.:	<u>2659A22</u>	Date Tested:	<u>11/12/09</u>
Client:	<u>County of Riverside</u>	Input By:	<u>C.C.</u>
Sampled By:	<u>Zafar A.</u>	Checked By:	<u>Z.A.</u>
Date Sampled:	<u>11/6/2009</u>	Depth(ft.):	<u>N/A</u>
Sample Location:	<u>Bulk Sample @ 0-5', Boring B-1</u>	Lab No.:	<u>9-R312</u>
Visual Sample Description:	<u>Lt. Brown Silty Sand/Sand Silt (SM-ML)</u>	Sample No.:	<u>1</u>

ASTM D 4829-03 X U.B.C. 18-2

Initial Moisture Content				Oven Moist. Cont.		Final Moist. Cont.	
wet wt.	309.6			wet wt.	309.6	wet wt.	
dry wt.	274			dry wt.	274	dry wt.	
wt. water	35.6			wt. water	35.6	wt. water	
% moist	13.0%			% moist	13.0%	% moist	

	INITIAL	INITIAL	INITIAL	FINAL
wt. Soil & Ring	573.7			573.7
wt. Ring	219.6			219.6
wt. Soil	354.1			354.1
Volume of Ring	0.007159486	0.007159486	0.007159486	0.007159486
Wet Density (pcf)	109.0			109.0
Moisture %	13.0%			13.0%
Dry Density (pcf)	96.5			96.5
% Saturation	47.2%			47.2%
RAW INDEX				0
CORRECTED INDEX				0

EI meas = measured expansion index
S meas = degree of saturation
EI(50) = estimate of the expansion index

$$EI_{meas} = \frac{\Delta H \times 1000}{H1} = \frac{27}{25}$$

$$EI = EI_{meas} - (50 - S_{meas}) \frac{65 + EI_{meas}}{220 - S_{meas}}$$

	INITIAL	OVEN	
S =	47%	47%	Percent Saturation
w =	13.0%	13.0%	Water Content, %
Gs =	2.7	2.7	Specific Gravity, 2.7, unless known
Yw =	62.3	62.3	Unit Weight of Water
Yd =	96.5	96.5	Dry Unit Weight

ΔH = change in height (D2 - D1)	0.027
H1 = initial Height	0.9845
D1 = Initial Dial	0.474
D2 = Final Dial	0.5010

$$S = \frac{wG_s Y_d}{G_s Y_w - Y_d}$$

$$S = \frac{47\%}{47\%} \begin{matrix} \text{INITIAL} \\ \text{OVEN} \end{matrix}$$

EXPANSION MEASUREMENTS

DATE	TIME	LOAD	READING	% SWELL
11/12/2009	10:50		0.4740	0.0%
11/13/2009		N/A	0.5010	2.7%

EXPANSION INDEX

0-20 **Very Low**
21-50 **Low**
 51-90 **Medium**
 91-130 **High**
 Above 130 **Very High**

Wet Density = (wt. wet soil/453.6)/vol
 Dry Density = wet den/(1+(w/100))

ANAHEIM TEST LABORATORY

3008 S. ORANGE AVENUE
SANTA ANA, CALIFORNIA 92707
PHONE (714) 549-7267

TO:

MTGL, INC.
14467 MERIDIAN PARKWAY, BLDG 2A
RIVERSIDE, CA.

DATE: 11/12/09

P.O. NO. 399869

LAB NO. B-3825

SPECIFICATION: CA-417/422/643

ATTN: ZAFAR AMED

MATERIAL: SILTY SAND (SM)
FINE GRAINED, LIGHT BROWN

PROJECT# 2659A22

JOB: BLYTHE COMMUNICATIONS FACILITY
COUNTY OF RIVERSIDE
B-1 @ 0-5'

ANALYTICAL REPORT

CORROSION SERIES SUMMARY OF DATA

PH	SOLUBLE SULFATES per CA. 417 ppm	SOLUBLE CHLORIDES per CA. 422 ppm	MIN. RESISTIVITY per CA. 643 ohm-cm
7.7	6,551	4,297	600 MAX

RESPECTFULLY SUBMITTED



WES BRIDGER CHEMIST

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

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SECTION 01500
TEMPORARY FACILITIES AND CONTROLS

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 temporary facilities and controls needed for the Work including, but not necessarily limited to:

1. Temporary utilities such as heat and air conditioning, water, electricity, and telephone.
2. Field offices for the Contractor's personnel and the Owner's Inspector.
3. Sanitary facilities.
4. Enclosures such as tarpaulins, barricades, and canopies.
5. Temporary fencing of the construction site.
6. Project sign.

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. Except that equipment furnished by subcontractors shall comply with requirements of pertinent safety regulations, such equipment normally furnished by the individual trades in execution of their portions of the Work is not part of this Section.
3. Permanent installation and hook-up of the various utility lines are described in other Sections.

1.03 PRODUCT HANDLING

Maintain temporary facilities and controls in proper and safe condition throughout progress of the work.

PART 2 -- PRODUCTS

2.01 UTILITIES

A. Water:

1. Provide necessary temporary piping and water supply connections to existing systems on site so as not to disrupt current users and, upon completion of the Work, remove such temporary facilities.

B. Electricity:

1. Provide necessary temporary wiring and, upon completion of the Work, remove such temporary facility.
2. Provide area distribution boxes so located that the individual trades may furnish and use 100 ft. maximum length extension cords to obtain power and lighting at points where needed for work, inspection and safety.
3. Provide for separate metering and pay for electricity used in construction.

- C. Heating or Air Conditioning: Provide and maintain heat or air conditioning necessary for proper conduct of operations needed in the Work.
- D. Telephone:
 - 1. Make necessary arrangements and pay costs for installation and operation of telephone service to the Contractor's and Owner's Inspector offices at the site.
 - 2. Make the telephone available to the Architect for use in connection with the Work.

2.02 FIELD OFFICES AND SHEDS

- A. Contractor's Facilities:
 - 1. Provide field office within the existing building construction areas adequate in size and accommodation for Contractor's offices, supply, and storage.
 - 2. Within the Contractor's facilities, provide enclosed space adequate for holding project meeting. Furnish with table, chairs, facsimiles (FAX) Equipment and utilities.
- B. Owner's Inspector Facilities:
 - 1. Provide an office for the exclusive use by the Owner's Inspector. Office is to be a minimum of 144 sq. ft., equipped with electric lights, heating, air conditioning, a window and a secure, lockable door.
 - 2. Furnish room with a plan table, desk, chair and bookcase. A telephone shall be installed using a separate, private line.
 - 3. The cost of providing and furnishing the Inspector's office, complete with utilities, phone and phone service, will be paid by the Contractor.

2.03 ENCLOSURES

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

2.04 TEMPORARY FENCING

Provide and maintain for the duration of construction a temporary fence of design and type needed to prevent entry onto the Work by the public.

2.05 PROJECT SIGNS

- A. Provide a 4 foot x 8 foot project sign of exterior plywood mounted on two 4" x 4" posts. See Drawings for location and depiction of the Project Sign.
- B. Except as otherwise specifically accepted by the Architect, do not permit other signs or advertising on the job site.

PART 3 -- EXECUTION

3.01 MAINTENANCE AND REMOVAL

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

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

SECTION 01640
PRODUCT HANDLING

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 products scheduled for use in the Work by means including, but not necessarily limited to, those described in this Section.

1.03 QUALITY ASSURANCE

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

1.04 MANUFACTURERS' RECOMMENDATIONS

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

1.05 PACKAGING

A. Deliver products to the job site in their manufacturer's original container, with labels intact and legible.

1. Maintain packaged materials with seals unbroken and labels intact until time of use.
2. Promptly remove damaged material and unsuitable items from the job site, and promptly replace with materials meeting the specified requirements, at no additional cost to the Owner.

B. The Architect may reject as non-complying such material and products that do not bear identification satisfactory to the Architect as to manufacturer, grade, quality, and other pertinent information.

1.06 PROTECTION

A. Protect finished surfaces, including jambs and soffits of openings used as passageways, through which equipment and materials are handled.

B. Provide protection for finished floor surfaces in traffic areas prior to allowing equipment or materials to be moved over such surfaces.

C. Maintain existing surfaces to remain and finished surfaces clean, unmarred, and suitably protected until accepted by the Owner.

1.07 REPAIRS AND REPLACEMENTS

A. In event of damage, promptly make replacements and repairs to the acceptance of the Architect and at no additional cost to the Owner.

B. Additional time required to secure replacements and to make repairs will not be considered by the Architect to justify an extension in the Contract Time of Completion.

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

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SECTION 01710

CLEANING

PART 1 -- GENERAL

1.01 SUMMARY

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

1.02 DESCRIPTION

Work Included: Throughout the construction period, maintain the buildings and site in a standard of cleanliness as described in this Section.

1.03 QUALITY ASSURANCE

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

PART 2 -- PRODUCTS

2.01 CLEANING MATERIALS AND EQUIPMENT

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

2.02 COMPATIBILITY

Use only the cleaning materials and equipment that are compatible with the surface being cleaned, as recommended by the manufacturer of the material.

PART 3 -- EXECUTION

3.01 PROGRESS CLEANING

A. General:

- 1. Retain stored items in an orderly arrangement allowing maximum access, not impeding traffic or drainage, and providing required protection of materials.
- 2. Do not allow accumulation of scrap, debris, waste material, and other items not required for construction of this work.
- 3. At least twice each month, and more often if necessary, completely remove all scrap, debris, and waste material from the job site.
- 4. Provide adequate storage for all items awaiting removal from the job site, observing requirements for fire protection and protection of the ecology.

B. Site:

- 1. Daily, and more often if necessary, inspect the site and pick up all scrap, debris, and waste material. Remove such items to the place designated for their storage.
- 2. Weekly, and more often if necessary, inspect all arrangements of materials stored on site. Re-stack, tidy, or otherwise service arrangements to meet the

requirements above.

3. Maintain the site in a neat and orderly condition at all times.

C. Structures:

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

3.02 FINAL CLEANING

- A. "Clean," for the purpose of this article, and except as may be specifically provided otherwise, shall be interpreted as meaning the level of cleanliness generally provided by skilled cleaners using commercial quality building maintenance equipment and materials.
- B. Prior to completion of the Work, remove from the job site all tools, surplus materials, equipment, scrap, debris, and waste. Conduct final progress cleaning as described in Article 3.01 above.
- C. Site:
 1. Unless otherwise specifically directed by the Architect, broom clean paved areas on the site and public paved areas adjacent to the site.
 2. Completely remove resultant debris.
- D. Structures:
 1. Exterior:
 - a. Visually inspect exterior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
 - b. Remove all traces of splashed materials from adjacent surfaces.
 - c. If necessary to achieve a uniform degree of cleanliness, hose down the exterior of the structure.
 - d. In the event of stubborn stains not removable with water, the Architect may require light sandblasting or other cleaning at no cost to the Owner.
 2. Interior:
 - a. Visually inspect interior surfaces and remove all traces of soil, waste materials, smudges, and other foreign matter.
 - b. Remove all traces of splashed material from adjacent surfaces.

- c. Remove paint drippings, spots, stains, and dirt from finished surfaces.
- 3. Glass: Clean inside and outside.
- 4. Polished surfaces: To surfaces requiring routine application of buffed polish, apply the polish recommended by the manufacturer of the material being polished.
- E. Schedule final cleaning as accepted by the Architect to enable the Owner to accept a completely clean Work.

3.03 CLEANING DURING OWNER'S OCCUPANCY

- A. Prior to the Owner occupying the Work or any portion thereof prior to the completion of the total project by the Contractor, the Contractor shall perform final cleaning for the area to be turned over in accordance with the General Requirements of the Contract.
- B. The Owner and Architect shall walk the limits of the area to be occupied and determine a punch list with expressly identified limits of area to be released. Once the area is accepted and occupied, the contractor shall be released from general cleaning except as required by the completion of the punch list items.

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

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SECTION 01720
PROJECT RECORD DOCUMENTS

PART 1 -- GENERAL

1.01 SUMMARY

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

1.02 DESCRIPTION

Work Included:

1. Throughout the construction period, maintain an accurate record of changes in the Contract Documents, as described in Article 3.01 below.
2. Upon completion of the Work, transfer the recorded changes to a set of Record Documents, as described in Article 3.02 below.

1.03 QUALITY ASSURANCE

- A. Delegate the responsibility for maintenance of Record Documents to one person on the Contractor's staff as accepted by the Architect.
- B. Accuracy of records:
 1. Thoroughly coordinate changes within the Record Documents, making adequate and proper entries on each page of Specifications and each sheet of Drawings and other Documents where such entry is required to show the change properly.
 2. Accuracy of records shall be such that future searches for items shown in the Contract Documents may rely reasonably on information obtained from the accepted Project Record Documents.
- C. Make entries within 24 hours after receipt of information that the change has occurred.

1.04 SUBMITTALS

- A. Per Article 5 of the General Conditions.
- B. The Architect's acceptance of the current status of Project Record Documents may be a prerequisite to the Architect's approval of requests for progress payment and request for final payment under the Contract.
- C. Prior to submitting request for final payment, submit the final Project Record Documents to the Architect and secure his acceptance.

1.05 PRODUCT HANDLING

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

PART 2 -- PRODUCTS

2.01 RECORD DOCUMENTS

- A. Job Set: Promptly following receipt of the Owner's Notice to Proceed, secure from the Architect at no charge to the Contractor one complete set of all Documents comprising the Contract.
- B. Final Record Documents of As-Built Conditions List: See Section 01900 – List of Project Close-Out Items for summary of Sections that require submittal of As-Built Documents.
- C. Summary List of Reports of Tests: See Section 01900 – List of Project Close-Out Items for summary of Sections that require submittal of Tests by the Contractor.

PART 3 -- EXECUTION

3.01 MAINTENANCE OF JOB SET

- A. Immediately upon receipt of the job set described in Paragraph 2.01-A above, identify each of the Documents with the title, "RECORD DOCUMENTS - JOB SET".
- B. Preservation:
 - 1. Considering the Contract completion time, the probable number of occasions upon which the job set must be taken out for new entries for examination, and the conditions under which these activities will be performed, devise a suitable method for protecting the job set to the acceptance of the Architect.
 - 2. Do not use the job set for any purpose except entry of new data and for review by the Architect, until start of transfer of data to final Project Record Documents.
 - 3. Maintain the job set at the Project Site unless otherwise requested by the Architect.
- C. Making entries on Drawings:
 - 1. Using an erasable colored pencil (not ink or indelible pencil), clearly describe the change by graphic line and note as required.
 - 2. Date all entries.
 - 3. Call attention to the entry by a "cloud" drawn around the area or areas affected.
 - 4. In the event of overlapping changes, use different colors for the overlapping changes.
- D. Make entries in the pertinent other Documents as accepted by the Architect.
- E. Conversion of schematic layouts:
 - 1. In some cases on the Drawings, arrangements of conduits, circuits, piping, ducts, and similar items, are shown schematically and are not intended to portray precise physical layout.
 - a. Contractor shall determine final arrangement, subject to the Architect's acceptance.
 - b. However, design of future modifications of the facility may require accurate information as to the final physical layout of items that are shown only schematically on the Drawings.
 - 2. Show on the job set of Record Drawings, by dimension accurate to within one inch, the centerline of each run of items such as are described in subparagraph

3.01-E-1 above.

- a. Clearly identify the item by accurate note such as "cast iron drain", "galvanized water", and the like.
 - b. Show, by symbol or note, the vertical location of the item ("under slab", "in ceiling plenum", "exposed", and the like).
 - c. Make all identification sufficiently descriptive that it may be related reliably to the Specifications.
3. The Architect may waive the requirements for conversion of schematic layouts where, in the Architect's judgment, conversion serves no useful purpose. However, do not rely upon waivers being issued except as specifically issued in writing by the Architect.

3.02 FINAL PROJECT RECORD DOCUMENTS

- A. The purpose of the final Project Record Documents is to provide factual information regarding all aspects of the Work, both concealed and visible, to enable future modification of the Work to proceed without lengthy and expensive site measurement, investigation, and examination.
- B. Acceptance of recorded data prior to transfer:
 1. Following receipt of the transparencies described in Paragraph 2.01-b above, and prior to start of transfer of recorded data thereto, obtain the Architect's acceptance of all recorded data.
 2. Make required revisions.
- C. Transfer of data to Drawings:
 1. Carefully transfer change data shown on the job set of Record Drawings to the corresponding transparencies, coordinating the changes as required.
 2. Clearly indicate at each affected detail and other Drawing a full description of changes made during construction, and the actual location of items described in subparagraph 3.01-E-1 above.
 3. Call attention to each entry by drawing a "cloud" around the area or areas affected.
 4. Make changes neatly, consistently, and with the proper media to assure longevity and clear reproduction.
- D. Transfer of data to other Documents:
 1. If the Documents other than Drawings have been kept clean during progress of the Work, and if entries thereon have been orderly to the acceptance of the Architect, the job set of those Documents other than Drawings will be accepted as final Record Documents.
 2. If any such Document is not so accepted by the Architect, secure a new copy of that Document from the Architect at the Architect's cost for reproduction and handling, and carefully transfer the change data to the new copy to the acceptance of the Architect.
- E. Review and Submittal:
 1. Submit the completed set of Project Record Documents to the Architect as described in Paragraph 1.03-C above.
 2. Participate in review meetings as required.
 3. Make required changes and promptly deliver the final Project Record Documents

to the Architect.

3.03 CHANGES SUBSEQUENT TO ACCEPTANCE

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

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

SECTION 01730
OPERATION AND MAINTENANCE ITEMS

PART 1 -- GENERAL

1.01 SUMMARY

- A. Division 0, Contract Requirements and Division 1, General Conditions apply to this Section.
- B. Work Included: To aid the continued instruction of operating and maintenance personnel, and to provide a positive source of information regarding the products incorporated into the Work, furnish and deliver the data described in this Section and in pertinent other Sections of these Specifications.

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 SUBMITTALS

- A. Per Article 5 of the General Conditions.
- B. Submit two copies of a preliminary draft of the proposed Manual or Manuals to the Architect for review and comments.
- C. Unless otherwise directed in other Sections, or in writing by the Architect, submit (3) three copies of the final Manual to the Architect prior to indoctrination of operation and maintenance personnel.

PART 2 -- PRODUCTS

2.01 OPERATION MANUALS

- A. Where instruction Manuals are required to be submitted under other Sections of these Specifications, prepare in accordance with the provisions of this Section.
- B. Reference Chart: See Section 01900 – List of Project Close-Out Items for summary of Sections that require submittal of Operation Manuals.
- C. Format:
 - 1. Size: 8-1/2" x 11"
 - 2. Paper: White bond, at least 20 lb. weight
 - 3. Text: Neatly written or printed
 - 4. Drawings: 11" in height preferable; bind in with text; fold-out acceptable; larger drawings acceptable but fold to fit within the Manual and provide a drawing pocket inside rear cover or bind in with text.
 - 5. Flysheets: Separate each portion of the Manual with neatly prepared flysheets briefly describing contents of the ensuing portion; flysheets may be in color.
 - 6. Binding: Use heavy-duty plastic or fiberboard covers with binding mechanism concealed inside the Manual; 3-ring binders will be acceptable; all

binding is subject to the Architect's acceptance.

7. Measurements: Provide all measurements in U.S. standard units such as feet-and-inches, lbs., and cfm.
- D. Provide front and back covers for each Manual, using durable material accepted by the Architect, and clearly identified on or through the cover with at least the following information:

OPERATING AND MAINTENANCE INSTRUCTIONS:

Name and Address of Work

Name of Contractor

General Subject of this Manual

Space for Signature of the Architect and Date

- E. Contents: Include at least the following:
1. Neatly typewritten index near the front of the Manual, giving immediate information as to location within the Manual of all emergency information regarding the installation.
 2. Complete instructions regarding operation and maintenance of all equipment involved including lubrication, disassembly, and reassembly.
 3. Complete nomenclature of all parts of all equipment.
 4. Complete nomenclature and part number of all replacement parts, name and address of nearest vendor, and all other data pertinent to procurement procedures.
 5. Copy of all guarantees and warranties issued.
 6. Manufacturer's bulletins, cuts, and descriptive data, where pertinent, clearly indicating the precise items included in this installation and deleting, or otherwise clearly indicating, all manufacturer's data with which this installation is not concerned.
 7. Such other data as required in pertinent Sections of these Specifications.

2.02 INSTRUCTION MANUALS

- A. Preliminary:
1. Prepare a preliminary draft of each proposed Manual.
 2. Show general arrangement, nature of contents in each portion, probable number of drawings and their size, and proposed method of binding and covering.
 3. Secure the Architect's acceptance prior to proceeding.
- B. Final: Complete the Manuals in strict accordance with the accepted preliminary drafts and the Architect's review comments.
- C. Revisions: Following the indoctrination and instruction of operation and maintenance personnel, review all proposed revisions of the Manual with the Architect.

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

WARRANTIES
SECTION 01800

THE FOLLOWING SECTIONS HAVE WARRANTIES:

02550 - Site Concrete Work
02752 - Asphalt Concrete Paving
02940 - Automatic Irrigation
02950 - Landscape & Planting
02980 - Stabilized Decomposed Granite
03320 - Concrete Sealers
04270 - Glass Masonry Unit System
06410 - Custom Casework
07210 - Thermal Insulation
07550 - Standing Seam Metal Roof
07600 - Flashing & Sheet Metal
07900 - Caulking and Sealants
08360 - Insulated Rolling Service Doors
08500 - Aluminum Windows
08625 - Tubular Daylighting Device
08800 - Glazing
08710 - Finished Hardware
09660 - Fluid Applied Flooring
15400 - Plumbing
15600 - HVAC
16010 - Electrical

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

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SECTION 01900
LIST OF PROJECT CLOSE-OUT ITEM

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 SUBMITTALS

- A. Per Article 5 of the General Conditions.
- 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)
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)

Section:	Name:	Comments:
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	
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	

Section	Name:	Items:	Time:	Comments:
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

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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.

1.06 SUBMITTALS

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*****

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SECTION 02110

CLEARING

PART 1 -- GENERAL

1.01 DESCRIPTION

Work included: The site shall be cleared and grubbed in preparation for the required Work of this Contract, as specified herein.

1.02 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.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

PART 2 -- PRODUCTS

2.01 MATERIALS

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

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 PROTECTION

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

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

E. Maintain access to the site at all times.

3.03 CLEARING

Strip the site of roots, shrubs, grass, grass roots, or any other organic material. Remove roots of shrubs to depth of 24 inches and roots of trees completely. Contractor shall visit the site prior to Bid to ascertain extent of existing to be removed.

3.04 DISPOSAL

General:

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

3.05 UTILITIES

A. Coordinate with utility companies and agencies as required.

B. Where utility cutting, capping, or plugging is required, perform such work in accordance with requirements of the utility company or governmental agency having jurisdiction.

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

SECTION 02200

EARTHWORK

PART 1 -- GENERAL

1.01 SCOPE OF WORK

Perform all Excavating, Backfilling and Grading as shown on the Drawings as specified herein, and as specified in the standard specifications for Public Works Construction (Green Book) latest edition.

1.02 CONDITIONS AT SITE

A. Visit the site. Examine and note all conditions as to the character and extent of Work involved.

B. EXISTING UTILITIES

1. Where existing utilities (not shown on the Drawings) are encountered, support, shore-up, protect same and immediately notify Architect. Allow entrance opportunity and ample time for measures necessary for continuance and/or relocation of such services.
2. Where noted on Drawings, cut and cap all street connections encountered in the excavating along curb line and mark location so they can subsequently be located and reconnected as required.

C. ADJACENT PROPERTY

1. Restore any damage to adjacent properties, streets and the like caused by operations of this Section to original condition without additional cost to Owner.

1.03 QUALITY CONTROL

A. PERMITS & ORDINANCES

1. Procure and pay for all necessary permits or certificates required by local authorities having jurisdiction over the Work.
2. Comply with all applicable Federal, State and Local ordinances.

B. TESTS, INSPECTIONS AND SUPERVISION

1. Contractor shall provide Construction Grade Stakes for rough grade, pad blue tops and fine grading of landscape berms.
2. Contractor shall make every effort to preserve stakes.
3. Site Work Contractor shall give the Work his personal supervision. In his absence he shall leave a responsible representative in charge who shall have the authority to receive and execute orders from the Architect, or his representative.

1.04 DEMOLITION AND SITE CLEARING

- A. The site shall be cleared and prepared for fill material in accordance with the Soil Report. Contractor shall visit the site prior to Bid to ascertain extent of existing to be removed.
- B. Saw-cut and remove all asphalt paving and concrete curbs, etc., as indicated on the Drawings and as required.
- C. Remove all material and legally dispose of it off the site.
- D. Repair any damage done to Owner's property or property of others on or off the premises as a result of the work.

- E. Do not close or obstruct streets, sidewalks, drives, etc. without permission, or store materials in same.
- F. Upon completion of this work, remove temporary protective devices, tools, materials, equipment and rubbish of every sort and leave site in neat and orderly condition.

1.05 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

PART 2 -- PRODUCTS

2.01 BACKFILL

Native material: on-site soils free of organic material are suitable.

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 LAYOUT

Layout of all work under this Section shall be made by a survey crew as engaged by the Contractor.

3.03 PUMPING AND DRAINAGE

- A. Keep all excavations, pits, trenches, footings, etc., entirely free from water.
- B. Protect excavations from rain or water from any source during construction. Use suitable pumping equipment or other means as required by conditions. Continue pumping as necessary until completion of project or until released by Construction Manager.
- C. When operations are interrupted by unfavorable weather conditions, prepare areas by grading and compaction to avoid ponding and erosion.

3.04 SITE PREPARATION

As per Soils Investigation Report.

3.05 EXCAVATION

- A. Detention Basin: Excavate the detention basin to the dimensions and contours shown on the grading plan and place the fill material on the site as needed. The Contractor shall fine grade the detention basin soon after beginning of construction to prepare for hydroseeding by the Landscape Contractor.
- B. Excavate to depths noted on Drawings, as required for proper completion of all footings and other subgrade level Work, and cut to sufficient size to provide ample room for construction of forms, shoring and bulk-heading as required.
- C. Backfill any excess excavation under footings with concrete at Contractor's expense.
- D. Shore and brace excavations where necessary to prevent cave-ins, and in accordance with all safety laws and codes.

3.06 TRENCHING

For underground piping, electrical conduits, etc., shall be done by the trade installing the pipes, conduits, etc. Backfilling of trenches shall be accomplished with native material backfilled to a relative compaction of 90 percent in accordance with ASTM D-1557.

3.07 STOCKPILE AREAS

Excavated or imported materials to be used as backfill or fill shall be stockpiled within the working areas. Contractor shall not interfere with the Work of other Contractors and shall not stockpile material within 10 feet of new construction or existing construction to remain.

3.08 BACKFILL AROUND STRUCTURE

Place earth backfill suitable to support planting and landscape materials around structure. Deposit backfill material in horizontal lifts not exceeding 8 inches loose thickness and compact each lift to 90% relative compaction.

3.09 BACKFILL OR FILL IN ASPHALT OR CONCRETE AREAS

Where finish grade is designated to be concrete, place Class 2 base backfill to subgrade elevations shown. Deposit in horizontal lifts not exceeding 8 inches loose thickness and compact each lift to not less than 90% relative compaction to within 12 inches of subgrade elevation. Relative compaction shall be 95% in the top 12 inches below subgrade elevations.

3.010 LANDSCAPING PLANTER AREAS

Construct planters of select landscape fill to the lines, grades and contours shown, allowing for thickness of any topsoil to be provided by the Landscape Contractor. Place material in loose lifts not exceeding 12 inches in thickness and compact each lift to 85% relative compaction. Make surfaces free of exposed roots and stones. Toes of slopes shall flare evenly and smoothly into surrounding surfaces. Final locations and contours shall be approved by Architect.

3.011 COMPACTION TESTS

Field tests of in-place density and moisture content shall be conducted in accordance with the soils report.

3.012 SETTLEMENT

Any settlement in backfill or fill, which occurs during the warranty period and is attributable to construction procedures, such as improper removal of shoring or insufficient compaction shall be corrected by Contractor at his own expense. Any structures, paved areas, piping or other facilities damaged by such settlement shall be restored to their condition prior to settlement by Contractor at his own expense.

3.013 FINISH GRADING

Perform all finish grading required, as indicated or reasonably inferred to permit installation of Work of others as shown on Drawings. At completion of Work, entire site shall be left in a clean and finished condition conforming to plans and specifications.

3.014 CLEANING AND SURPLUS MATERIAL

- A. Conduct Work in an orderly manner and so as not to create nuisance. Dirt shall not be permitted to accumulate on streets or sidewalks nor to be washed into sewers.
- B. Remove from the site and legally dispose of all debris and excavated material not required for fill. No rubbish or debris shall be buried on the site.

3.015 TEMPORARY BLOWSAND CONTROL FENCING

- A. The Contractor shall install and maintain the temporary Blow Sand Control Fencing in the locations shown on the plans and as determined, during construction to be beneficial for workers on the site or to prevent complaints from neighboring property owners.

- B. This item is not intended to replace watering as a means of dust control.
- C. The fence material shall be an ultra violet resistant fabric specifically intended for the purpose of blow sand control. The materials, posts, method of attachment shall be reviewed and approved by the Owner prior to installation.

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

SECTION 02205
SOIL STABILIZER

PART 1 -- GENERAL

1.01 SCOPE OF WORK

- A. Perform all soil stabilization of soils as shown on the Drawings and as specified herein.
- B. Related Work: Documents affecting work of this Section include, but are not necessarily limited to, Special Conditions, and Sections in Division 1 of these Specifications.

1.02 CONDITIONS AT SITE

- A. Visit the site. Examine and note all conditions as to the character and extent of Work involved.
- B. Perform selective demolition and excavation work per Sections 02070, 02200 and 02220 of these specifications.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

PART 2 -- PRODUCTS

2.01 MATERIALS

- A. Provide an organic-based chemical stabilizer that is a mixture of surfactant, buffer, and polyquaternaryamine in a polar vehicle.
- B. Provide "Soil Sta" as manufactured by Soil Sta, Inc. (214) 271-3243 or approved equal.

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 PREPARATION

- A. Drill holes in slab at a 10'-0" grid.
- B. Excavate perimeter foundation at 10'-0" on center with 3'-0" x 3'-0" x 3'-0" holes.

3.03 APPLICATION

- A. Mix at a dilution of 1:50. Apply, with spray, at all areas of flat work at 1/8 gallon per square foot.
- B. Pressure inject soil stabilizer per manufacturer's recommendations.

3.04 CLEAN-UP

Remove all debris and excess material from site.

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

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SECTION 02220
EXCAVATING, BACKFILLING, AND COMPACTING

PART 1 -- GENERAL

1.01 DESCRIPTION

Work included: Rough grading and compaction of the site and building pad areas to a tolerance of ± 0.10 of a foot. Excavate for foundations, backfill and compact as necessary and fine grade the site to the elevations shown on the Drawings, as specified herein, and as needed to meet the requirements of the construction shown in the Contract Documents.

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. Use equipment in size, capacity, and numbers to accomplish the work of this Section in a timely manner.
- C. In addition to complying with requirements of governmental agencies having jurisdiction, comply with the directions of the Soils Engineer.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5 of the General Conditions.

1.04 SUBMITTALS

Schedule: Submit proposed Products to Architect for review at least two weeks prior to start of work.

PART 2 -- PRODUCTS

2.01 SOILS MATERIALS

Fill and backfill materials:

- 1. Provide soil materials free from organic matter and deleterious substances, containing no rocks or lumps larger than 2" in their greatest dimension, and equal to the on-site material.
- 2. Fill material is subject to the acceptance of the Soils Engineer, and is that material removed from excavations or imported from off-site borrow areas, predominantly granular, non-expansive soils free from roots and other deleterious matter.
- 3. Imported materials shall be tested and accepted by the Soils Engineer before being brought to the site.
- 4. Cohesion-less material used for structural backfill: Provide sand free from organic material and other foreign matter, and as accepted by the Soils Engineer.
- 5. Provide granular base under building slabs. Fine aggregate shall comply with requirements of Section 03300 of these Specifications.

2.02 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":
3. An approved equal will be accepted if substitution submitted according to Section 01340.

2.03 TERMITE TREATMENT

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":
3. An approved equal will be accepted if substitution submitted according to Section 01340.

2.04 OTHER MATERIALS

Provide other materials, not specifically described but required for a complete and proper installation, as selected by the Contractor subject to the acceptance of the Architect.

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.
- E. If the Contractor encounters conditions at the site that (a) are materially different from those indicated in the contract plans or in specifications, or (b) could not have been reasonably anticipated as inherent in the work of the character provided in the contract, the Contractor shall immediately notify the Owner verbally and in writing within 24 hours. This notification shall be a condition precedent before any negotiations for "changed or differing site conditions" can proceed. If the Owner determines that conditions do materially so differ and cause an increase or decrease in the Contractor's cost of, or the time required for, performance of any part of the work under this contract, then negotiations shall commence between Owner and Contractor to provide equitable adjustment to Owner or Contractor resulting therefrom.

3.02 PROCEDURES

A. Utilities:

1. Unless shown to be removed, protect active utility lines shown on the Drawings or otherwise made known to the Contractor prior to excavating. If damaged, repair or replace at no additional cost to the Owner.
 2. If active utility lines are encountered, and are not shown on the Drawings or otherwise made known to the Contractor, promptly take necessary steps to assure that service is not interrupted.
 3. If existing utilities are found to interfere with the permanent facilities being constructed under this Section, immediately notify the Architect and secure his instructions.
 4. Do not proceed with permanent relocation of utilities until written instructions are received from the Architect.
- B. Protection of persons and property:
1. Barricade open holes and depressions occurring as part of the Work, and post warning lights on property adjacent to or within public access.
 2. Operate warning lights during hours from dusk to dawn each day and as otherwise required.
 3. Protect structures, utilities, sidewalks, pavements, and other facilities from damage caused by settlement, lateral movement, washout, and other hazards created by operations under this Section.
- C. De-watering:
1. Remove all water, including rain water, encountered during trench and sub-structure work to an approved location by pumps, drains, and other approved methods.
 2. Keep excavations and site construction area free from water.
- D. Use means necessary to prevent dust from becoming a nuisance to the public, to neighbors, and to other work being performed on or near the site.
- E. Maintain access to adjacent areas at all times.
- 3.03 EXCAVATING
- A. Perform excavating of every type of material encountered within the limits of the Work to the dimensions and elevations indicated and specified herein.
- B. Excavated materials: Transport to, and place in, fill or embankment areas within the limits of the Work; dispose of such excess material away from the site in a location arranged and paid for by the Contractor.
- C. Excavate and backfill in a manner and sequence that will provide proper drainage at all times.
- D. Unauthorized excavation:
1. Unauthorized excavation consists of removal of materials beyond indicated subgrade elevations or dimensions without specific instruction from the Architect or the Soils Engineer.
 2. Under footings, foundations, or retaining walls:
 - a. Sub-excavate and recompact earth materials in the affected area as directed by the Soils Engineer.
 - b. When acceptable to the Soils Engineer, lean concrete fill may be used to bring the bottom elevation to proper position.

3. Elsewhere, backfill and compact unauthorized excavations as specified for authorized excavations, unless otherwise directed by the Soils Engineer.
- E. Stability of excavations:
1. Slope sides of excavations to 1:1 or flatter, unless otherwise directed by the Soils Engineer.
 2. Shore and brace where sloping is not possible because of space restrictions or stability of the materials being excavated.
 3. Maintain sides and slopes of excavations in a safe condition until completion of backfilling.
- F. Shoring and bracing:
1. Provide materials for shoring and bracing as may be necessary for safety of personnel, protection of work, and compliance with requirements of governmental agencies having jurisdiction.
 2. Maintain shoring and bracing in excavations regardless of the time period excavations will be open.
 3. Carry shoring and bracing down as excavation progresses.
- G. Excavating for structures:
1. Conform to elevations and dimensions shown within a tolerance of 0.10 ft.
 2. Where concrete is anticipated to be placed directly against earth surfaces, widen excavations by one inch at each contact surface beyond that specified on the plans.
 3. In excavating for footings and foundations, take care to create accurate and straight planes and shapes.
 - a. Excavate by hand tools to final grade where necessary.
 - b. Trim bottoms to required lines and grades to leave solid base to receive concrete.
- H. Excavating for pavements:
1. Cut surface under pavements to comply with cross-sections, elevations, and grades.

3.04 FILLING AND BACKFILLING

- A. General:
1. For each classification listed below, place acceptable soil material in layers to required subgrade elevations.
 2. In excavations, use satisfactory excavated or borrowed material.
 3. Under asphalt pavements, use subbase materials.
- B. Placing and compacting:
1. Place backfill and fill materials in layers not more than 8" in loose depth.
 2. Before compacting, moisten or aerate each layer as necessary to provide the optimum moisture content.
 3. Compact each layer to required percentage of maximum density for area.

4. Do not place backfill or fill material on surfaces that are muddy, frozen, or containing frost or ice.
 5. Place backfill and fill materials evenly adjacent to structures, to required elevations.
 6. Take care to prevent wedging action of backfill against structures by carrying the material uniformly around the structure to approximately the same elevation in each lift.
- C. Backfill excavations as promptly as progress of the Work permits but not until completion of the following:
1. Acceptance of construction below finish grade including, where applicable, damp-proofing and waterproofing.
 2. Inspecting, testing, approving, and recording locations of underground utilities.
 3. Removing concrete formwork.
 4. Removing shoring and bracing, and backfilling of voids with satisfactory materials.
 5. Removing trash and debris.
 6. Placement of horizontal bracing on horizontally supported walls.

3.05 COMPACTING

- A. Control soil compaction for any areas disturbed during construction to provide the minimum percentage of density specified for each area as determined according to ASTM D1557. Soils Engineer's recommendations found in the Soils Report will take precedence.
- B. Provide not less than the following maximum density of soil material compacted at optimum moisture content for the actual density of each layer of soil material in place, and as approved by the Soils Engineer.
1. Structures: Compact each layer of fill and material or backfill material at 90% of maximum density.
 2. Lawn and unpaved areas:
 3. Compact the top 8" of subgrade and each layer of fill material or backfill material at 90% of maximum density.
 4. Compact the upper 12" of filled areas, or natural soils exposed by excavating, at 85% of maximum density.
 5. Paving: Compact each layer of fill material or backfill material at 95% of maximum density.
- C. Moisture control:
1. Where subgrade or layer of soil material must be moisture-conditioned before compacting, uniformly apply water to surface of subgrade or layer of soil material to prevent free water appearing on surface during or subsequent to compacting operations.
 2. Remove and replace, or scarify and air dry, soil material that is too wet to permit compacting to the specified density.
 3. Soil material that has been removed because it is too wet to permit compacting may be stockpiled or spread and allowed to dry. Assist drying by discing,

harrowing, or pulverizing until moisture content is reduced to a satisfactory value as determined by moisture-density relation tests approved by the Soils Engineer.

3.06 FINE GRADING

A. General:

1. Uniformly grade the areas within limits of grading under this Section, including adjacent transition areas.
2. Smooth the finished surfaces within specified tolerance.
3. Compact with uniform levels or slopes between points where elevations are shown on the Drawings, or between such points and existing grades.

B. Grading outside building lines:

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

3.07 MAINTENANCE

A. Protection of existing graded areas:

1. Protect existing graded areas from traffic and erosion, and keep free from trash and weeds;
2. Repair and re-establish grades in settled, eroded and rutted areas to the specified tolerances.

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

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

SECTION 02510
ASPHALT CONCRETE PAVING

PART 1 -- GENERAL

1.01 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.

1.02 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.

1.03 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.

1.04 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.

1.05 SUBSTITUTIONS

Substitutions will be considered per Article 5.3 of the General Conditions.

1.06 SUBMITTALS

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

- A Materials list of items proposed to be provided under this Section.
- B 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. "Dagnet":

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 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

1.02 GENERAL REQUIREMENTS

- A. Reference Standards:
 - 1. UBC: All work shall conform to the requirements of the 2001 edition of the Uniform Building Code.
 - 2. California Building Code, State Amendments to the Uniform Building Code.
 - 3. 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.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5.3 of the General Conditions.

1.04 SUBMITTALS

- A. Comply with pertinent provisions of Article 5 of the General Conditions.
- 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.

1.05 CLOSEOUT

- A. Upon completion of work of this Section, the Contractor shall remove all equipment, excess material, and waste products from the site.
- B. Provide one (1) year warranty.

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 & 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 02660
SEWER AND WATER MAIN CONSTRUCTION

PART 1 -- GENERAL

1.01 DESCRIPTION

- A. Construct Sewer and Water Mains and appurtenances as shown on the plans to the satisfaction of the Governing Agency.
- B. Contractor shall obtain the needed permits from Special District and shall coordinate all required inspections with Special District and as required by the Owner's Inspector.

1.02 SUBSTITUTIONS

Substitutions will be considered per Article 5.3 of the General Conditions.

1.03 SUBMITTALS

- A. Submittal: List of material proposed, accompanied by manufacturers latest printed literature with technical data.
- B. Certificates: Manufacturers certification that materials meet specified requirements.
- C. Certification: Certificate of compliance from testing firm that on-site potable water system is disinfected in accordance with AWWA Standard C601.

1.04 RECORD DRAWINGS

Comply with pertinent provisions of Article 4.1.2 of the General Conditions.

1.05 SEQUENCING OF CONSTRUCTION

- A. Protect existing service facilities and other existing utilities in place.
- B. Install site systems as soon as conditions permit other facilities and improvements to follow.
- C. Install tops of manholes, junction chambers, vaults, boxes, valve boxes, etc., unless otherwise specifically indicated on the drawings, to an elevation 3" below rough grade and raise to final elevation after paving.

PART 2 -- PRODUCTS

2.01 MATERIALS

All materials and equipment shall be as specified on the plans or as required by the AWWA specifications and standards.

- A. Water lines:
 - 1. Piping 2" or smaller than in diameter to be PVC Schedule 40.
 - 2. Piping larger than 2" in diameter to be PVC Class 150.
 - 3. 14-gauge copper tracer wire to be installed above all mains.
- B. Sewer lines: shall be Schedule 40 ABS pipe per ASTM-F628-91 with solvent weld fittings per ASTM D2661.
- C. Fire Hydrants: Type as specified by the Governing Agency

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 SEWER AND WATER MAIN CONSTRUCTION

The Contractor shall supply all materials, labor, tools and equipment to complete the work to the satisfaction of the Governing Agency.

3.03 FINAL VALVE AND MANHOLE ADJUSTMENT

The Contractor shall adjust the water valves and manholes to grade after Concrete flatwork and final grading has been installed / completed.

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

SECTION 02666
WATER SYSTEM

PART I -- GENERAL

1.01 DESCRIPTION

Work in This Section: Work includes, but is not limited to:

1. Contractor shall furnish and install all piping, valves, fillings, etc. as shown on the plans, as specified herein, and as required to make the on-site water system completely operational.
2. Water system - From the Utility Company main or point of connection to within 5 feet of the Building or other Building point of connection as indicated on the drawing.
3. Related Work: Documents affecting work of this Section include, but are not necessarily limited to, Special Conditions, and Sections in Division 1 of these Specifications

1.02 QUALITY ASSURANCE

- A. Perform all work in accordance with applicable provisions of "Uniform Plumbing Code", current Edition, International Association of Plumbing and Mechanical Officials, Los Angeles, California (UPC).
- B. Underground Conduit Construction shall be in accordance with Section 306 of "Standard Specifications for Public Works Construction", current Edition, published by Building News, Inc., Los Angeles, California (PWC Specifications).
- C. Disinfection of on-site water system shall be in accordance with American Water Works Associates (AWWA) Standard C601.
- D. Installation of water service line, meter and backflow preventer shall be in accordance with Local Governing Agency requirements.

1.03 SUBSTITUTIONS

Substitutions will be considered per Article 5.3 of the General Conditions.

1.04 SUBMITTALS

- A. Submittal: List of material proposed, accompanied by manufacturers latest printed literature with technical data.
- B. Certificates: Manufacturers certification that materials meet specified requirements.
- C. Certification: Certificate of compliance from testing firm that on-site potable water system is disinfected in accordance with AWWA Standard C601.

1.05 RECORD DRAWINGS

Comply with pertinent provisions of Section 01720.

1.06 SEQUENCING OF CONSTRUCTION

- A. Protect existing water service facilities and other existing utilities in place.
- B. Install site water system as soon as conditions permit other facilities and improvements to follow.
- C. Note that work includes the abandonment of existing water system serving the current building, which will remain in service. Sequence construction such that new water

service is installed and operational prior to demolishing existing service. Connect existing building to new service, providing a temporary connection where required. Coordinate with and provide assistance to local Utility as required to abandon existing service.

- D. Install tops of manholes, junction chambers, vaults, boxes, valve boxes, etc., unless otherwise specifically indicated on the drawings, to an elevation 3" below rough grade and raise to final elevation after paving.

1.07 PROJECT CONDITIONS

- A. Site Information: Perform site survey, research public utility records, and verify existing utility location. Verify that water system piping may be installed in accordance with original designs and proposed standards.
 - 1. Locate existing water mains and verify any new work to be performed in conjunction therewith. If any pre-existing damage to any portion of the existing water system is discovered, report it in writing to the Owners Representative prior to start of any work connected with or in the area of the damaged portion. Repair or replace any damaged existing water system or portion thereof, which is not reported as described herein, at no additional cost to Owner.
 - 2. Where new water mains connect to existing system, excavate carefully expose and verify horizontal and vertical locations of all points of connection; notify Architect of any discrepancies. Perform all such required exploratory work far enough in advance of storm water main construction to allow for Architect to redesign any systems as required to meet existing condition. No time delays will be allowed due to failure of Contractor to perform this work early enough in his construction period. Any water system that must be reconstructed due to failure of Contractor to verify grades must be completed at no additional cost to the Owner.
- B. Verify and coordinate installation locations to assure clearance from all other utilities and from footings and foundations. Pay particular attention to structural details pertaining to piping installations with respect to foundations. Where utilities fall within the zone of influence of footings or foundations as shown on these details, deepen footings, relocate piping, or, if approved by the Soils Engineer, modify trench backfill connections, materials or methods, all at no additional cost.

PART 2 -- PRODUCTS

2.01 WATER SYSTEMS

- A. Pipe: Poly Vinyl Chloride (PVC)
 - 1. 4" and larger - Polyvinyl Chloride (PVC 1120) pressure pipe shall conform to AVMA C-900, DR 18, with elastomeric type gaskets per ASTM F477 in bell-and-spigot joints. Pipe shall be UL listed.
 - 2. 2" and smaller - PVC shall conform to ASTM D1785, schedule 40. Joints shall conform to ASTM D2564.
- B. Gate Valves (less than 4 inches):
 - 1. Iron body, bronze mounted, parallel seat, double disc, non-rising stem, bottom or side wedging, and comply with AWWVA C-500 specifications.
 - 2. Suitable for a working pressure of 150 psi. The working pressure and the name of the manufacturer cast in plain letters on the body of the valve.
 - 3. Open by turning counterclockwise.

4. Entire wedging mechanism of solid bronze, designed to allow the gates to function properly when water pressure is exerted from either or both directions.
 5. Valve stems shall be solid bronze.
 6. Stem nuts shall be solid bronze.
 7. All cast or rolled bronze used in the manufacture of gate valves, which will be in contact with water, shall contain a maximum zinc content of 5 percent and a maximum aluminum content of 2 percent.
- C. Gate Valves (4 inches and larger):
1. Valves shall be line size, 150 psi working pressure, UL listed, non-rising stem, resilient seat gate valves per AWWA C-509 and shall be opened counter clockwise.
 2. Valves shall have the manufacturers name, catalog number and marking pressure molded or stamped in places where the name and number may be easily seen when the valves are installed. Valves shall be painted as specified in Section 27, AWWA Specifications C-500. Valves shall be furnished complete with accessories. Valve joints shall be in accordance with all applicable requirements specified for joints and shall be for buried service.
- D. Check valves: Swing type spring loaded for 150 psi working pressure, set readily and tightly with the face of the closure elements made of a corrosion resistant material such as bronze composition conforming to ASTM B-62.
- E. Backflow Devices: Per Local Governing Agency Standard Specifications.
- F. Meters: Meter shall be furnished by Local Governing Agency and installed by Contractor. Contractor shall schedule and coordinate this work with the Local Governing Agency.
- G. Air / Vacuum Valves and Blowoffs shall be per Local Governing Agency Standards.
- H. Valve Boxes: Unless otherwise specified, the following options may be provided. All valve box covers shall have "WATER" cast in the top using sharp faced letters of 1" minimum height:
1. Cast iron, slip adjustment type of appropriate size for valve. Alhambra No. A-3009 or approved equal.
 2. Pre-cast concrete with cast iron cover. For valves larger than 2", Brooks 3-RT series or approved equal. For valves 2" and smaller, Brooks 1-R series (1-RT in traffic areas) or approved equal.
- I. Marker Tape: Manufacturers standard permanent bright blue continuous-printed detectable plastic tape intended for direct burial; not less than 6" wide x 4-mil thickness. Black print shall read, "CAUTION - WATER LINE BURIED BELOW".
- J. Thrust Blocks: per Local Governing Agency Standards.

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 FIELD CONDITION

- A. Verify drawing dimensions with actual field conditions. Inspect related work and adjacent surfaces. Correct improper conditions.
- B. Coordinate all work of this section with related trades.
- C. All water used on this project must be delivered through a Water District furnished construction meter or approved alternative. The Contractor shall be responsible for the cost of all construction water: including that used for loading of new lines, testing, flushing, and disinfecting.
- D. Verify and coordinate installation locations to assure clearance from all other utilities and from footings and foundations. Pay particular attention to structural details pertaining to piping installations with respect to foundations. Where utilities fall within the zone of influence of footings or foundations as shown on these details, deepen footings, relocate piping, or, if approved by the Soils Engineer, modify trench/backfill conditions, materials or methods, all at no additional cost.

3.03 TRENCH EXCAVATION, BEDDING, AND BACKFILL

- A. Perform all trench excavation and all additional excavation required for vaults or other structures forming a part of the pipeline. Trench excavation and backfill shall conform to the requirements of Section 02200 of these specifications and Section 306-1.2 of the PWC Specifications and shall require the approval of the Soils Engineer.
- B. For 4" diameter pipe and larger, bedding material shall normally extend from 3" below the pipe invert to a point 1 foot above the top of pipe. Bedding material shall be a mixture of sand, gravel, crushed aggregate or approved native material. Bedding material shall have a sand equivalent of 30 or more, and have a coefficient of permeability greater than 0.001 centimeters per second. Bedding material shall be sized within the following range:

Sieve Size:	Percent Passing:
3/4"	100
No. 4	35 - 65
No. 200	0-10

- C. For piping less than 4" in diameter, bedding shall be a granular material free from rocks as approved by the Soils Engineer.
- D. Bedding shall be compacted to 90 percent of the Maximum Relative Density, unless otherwise specified.
- E. In backfilling the trench, take all necessary precautions to protect the pipe from damage due to shifting.
- F. Bury marker tape 6" to 12" below finished grade, directly above pipe.

3.04 PIPE LAYING, JOINTING AND TESTING

- A. Survey line and grade: Provide grade controls and survey lines in accordance, with Section C) 1050.
- B. Pipe installation: the Inspector will inspect Pipe in the field before and after laying. Any corrective work shall be done by the Contractor and approved by the Inspector at no cost to the Owner. Installation of pipe shall conform to the requirements of Section 306.1.2 of the PWC Specifications.
- C. Install concrete thrust blocks against undisturbed soil at all 4" diameter or larger bends, tees, crosses, valves, pipe ends and where changes in pipe diameters occur at reducers or in fittings. Thrust blocks shall be Class 420-C-2500 Portland Cement.

- D. Testing of pipelines: Perform all tests required by governing agencies. Testing shall be performed in accordance with Section 306-1.4 of PWC Specifications. Furnish all water, materials, and labor for making the required tests. All tests shall be made in the presence of the Inspector. Notify the Inspector at least 48 hours before performance of the required tests.
- E. Disinfection: before acceptance of the onsite potable water system, an approved testing firm hired by the Contractor as prescribed in AWWA Standard C601 shall disinfect each unit of completed water line. The disinfection and testing procedures shall continue at the contractors expense until tests indicate that satisfactory bacteriological results have been obtained. The testing firm shall provide a certificate of compliance to the Owner that the unit tested met the AWWA requirements.

3.05 LOCAL GOVERNMENTAL AGENCY

- A. Contractor shall purchase and maintain on the project site copies of the Governing Agencies' Standard Specifications and Standard Drawings for Water and Sanitary Sewer Facilities, Current Edition. Agency standards shall take precedence over these Specifications.
- B. Prior to final acceptance of the work obtain approval of all connections to the public main and all backflow assembly installations from the Local Governing Water District and submit copies of the Certificates of Completion to the Inspector for forwarding to the Owner.

3.06 DEFECTIVE WORK

Repair or replace defective work as at no additional cost to the Owner.

3.07 CLEAN-UP

Upon completion of work, leave the site clean and clear of debris and construction materials.

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

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