



**CITY OF LAGUNA HILLS
CALIFORNIA**

PLANS & SPECIFICATIONS

FOR

**TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112**

PREPARED FOR

**CITY OF LAGUNA HILLS
24035 EL TORO ROAD
LAGUNA HILLS, CA 92653**

JULY 2020

These plans and specifications are the exclusive property of the Agency and shall not be used in any manner without prior consent of the Agency. Any reuse of these plans/specifications by Others shall be at the Other's sole risk and without liability to Agency.

NOTE: Any reference to Agency and/or City shall both refer to the City of Laguna Hills

BID SET

CITY OF LAGUNA HILLS
CALIFORNIA

SPECIFICATIONS
FOR

TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112

Prepared under the Supervision of and Approved by:



Kenneth H. Rosenfield

Kenneth H. Rosenfield, City Engineer
R.C.E. No. 33496
Expires 6/30/22

7/28/2020

Date

CITY OF LAGUNA HILLS
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FOR
TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112

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**CITY OF LAGUNA HILLS
NOTICE INVITING SEALED BIDS FOR
TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112**

NOTICE IS HEREBY GIVEN that sealed bids will be received by the City of Laguna Hills, as AGENCY, for furnishing all materials, equipment, tools, labor, and incidentals as required for the above stated project in strict accordance with the specifications and drawings on file in the City Clerk's Department of the City of Laguna Hills.

Bids will be received at the City of Laguna Hills, until 11:00 a.m. on the 25th day of August 2020, at which time and place the bids will be publicly opened and read aloud. Bids shall be submitted in sealed envelopes marked on the outside, **"SEALED BID FOR TRAFFIC SIGNAL REPAIR – ALICIA PARKWAY AT COMMUNITY CENTER DRIVE, CIP NO. 112 - DO NOT OPEN WITH REGULAR MAIL."**

The work to be constructed hereunder is located at the intersection of Alicia Parkway at Community Center Drive, Laguna Hills. The work generally consists of unclassified excavation, removal and replacement of one traffic signal pole, one controller cabinet, and appurtenant equipment, temporary pole, concrete work and related work.

The Agency reserves the right, after opening bids, to reject any or all bids or to make award to the lowest responsible bidder and reject all other bids; to waive any informality in the bidding; to accept any bid or portion thereof; and to take all bids under advisement for a period of forty-five (45) days. Bids will be compared on the basis of the Engineer's estimate of the quantities of the several items of work as shown on the bid Sheets. Only such plans, specifications, and items of work as are appropriate shall apply to the work as bid.

At the time of contract award, the contractor shall possess a Contractor's License or a combination of Specialty Contractor's Licenses adequate to perform the work herein described.

Each bid must be accompanied by a certified or cashier's check, or by a corporate surety bond from an admitted insurer on the form furnished by the AGENCY, as a guarantee that the bidder will, if an award is made to him in accordance with the terms of his bid, promptly secure workers' compensation insurance and liability insurance, execute a contract in the required form, and furnish satisfactory bonds for the faithful performance of the contract and for the payment of claims of material and laborers thereunder. Said check or bidder's bond shall be in an amount not less than 10 percent of the amount of the bid. The Performance Bond shall be not less than 100 percent of the total amount of the bid price named in the contract. The Payment Bond shall be not less than 100 percent of the total amount of the bid price named in the contract. The AGENCY reserves the right to reject any bond, if in the

Notice Inviting Bids
Traffic Signal Repair
Alicia Parkway at Community Center Drive, CIP No. 112
July 28, 2020

opinion of the AGENCY Attorney, the Surety's acknowledgment is not in the form included in the contract documents or in another form substantially as prescribed by law.

In accordance with provisions of Section 1773.2 (amended 1977) of the California Labor Code, copies of the prevailing rate of per diem wages as determined by the State Director of Industrial Relations are available on the Internet at the World Wide Web site of the State Department of Industrial Relations at "www.dir.ca.gov" under Statistics and Research. It shall be mandatory upon the contractor to whom the contract is awarded and upon any subcontractor under him to pay not less than said specified rates to all workmen employed by them in the execution of the contract.

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project.

This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations. In bidding on this project, it shall be the Bidder's sole responsibility to evaluate and include the cost of complying with all labor compliance requirements under this contract and applicable law in its bid.


The City of Laguna Hills hereby notifies all bidders that it will affirmatively insure that in any contract entered into pursuant to this advertisement, Disadvantaged Business and Women's Business Enterprises will be afforded full opportunity to submit bids in response to this invitation and will not be discriminated against on the grounds of race, creed, color, or national origin in consideration for an award.

A full set of drawings and specifications is available for inspection without charge at the public counter of the City Hall of the City of Laguna Hills.

Complete sets of said contract documents may be downloaded from the City of Laguna Hills website at www.lagunahillscsca.gov, select "Doing Business, Bid Opportunities," and then select the specific project in which you are interested. You may also access the website after the bid date to obtain information regarding the bid results.

Dated this 28th day of July 2020.

CITY OF LAGUNA HILLS, CALIFORNIA



MELISSA AU-YEUNG, CITY CLERK
24035 El Toro Road
Laguna Hills, CA 92653

CITY OF LAGUNA HILLS
TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP. NO. 112

INSTRUCTIONS TO BIDDERS

1. PROPOSAL FORMS

Bids shall be submitted in writing on the Proposal forms provided by the AGENCY. All information requested therein must be clearly and legibly set forth in the manner and form indicated. The AGENCY will not consider any proposal not meeting these requirements.

2. PROPOSAL GUARANTEE (BID BOND)

Proposals must be accompanied by a proposal guarantee consisting of a certified check or bid bond from an admitted surety payable to the AGENCY in the minimum amount of ten percent (10%) of the total amount bid. Any proposal not accompanied by such a guarantee will not be considered. If a bidder to whom a contract is awarded fails or refuses to execute the contract documents or furnish the required insurance policies and bonds as set forth in those documents, the proposal guarantee shall be forfeited to the AGENCY. The proposal guarantees of all bidders will be held until the successful bidder has properly executed all contract documents.

3. NON-COLLUSION AFFIDAVIT

Bidder shall declare that the only persons or parties interested in the proposal as principals are those named therein; that no officer, agent, or employee of the AGENCY is personally interested, directly or indirectly, in the proposal; that the proposal is made without connection to any other individual, firm, or corporation making a bid for the same work; and that the proposal is in all respects fair and without collusion or fraud. The Non-Collusion Affidavit shall be executed and submitted with the proposal.

4. PROPOSAL BID SHEET

Bidders shall give unit prices for each and all of the items set forth. No aggregate bids will be considered. The bidder shall set forth for each item of work, in clearly legible figures, a unit item price and a total for the item in the respective spaces provided for this purpose. The quantities listed in the Bid sheets are supplied to give an indication of the general scope of work, but the accuracy of figures is not guaranteed and the bidder shall make his own estimates from the drawings. In case of a variation between the unit price and the totals shown by the bidder, the unit price will be considered to be the bid.

5. DELIVERY OF PROPOSAL

Proposals may be mailed or delivered by messenger. However, it is the bidder's responsibility alone to ensure delivery of the proposal to the hands of the AGENCY's designated official prior to the bid opening hour stipulated in the "Notice Inviting Sealed Bids." Late proposals will not be considered. Proposals shall be enclosed in a sealed envelope plainly marked on the outside, "SEALED BID FOR TRAFFIC SIGNAL REPAIR – ALICIA PARKWAY AT COMMUNITY CENTER DRIVE, CIP NO. 112 - DO NOT OPEN WITH REGULAR MAIL."

6. WITHDRAWAL OF PROPOSALS

A proposal may be withdrawn by a written request signed by the bidder. Such requests must be delivered to the AGENCY's designated official prior to the bid opening hour stipulated in the "Notice Inviting Sealed Bids." The withdrawal of a proposal will not prejudice the right of the bidder to submit a new proposal, providing there is time to do so. Proposals may not be withdrawn after said hour without forfeiture of the proposal guarantee.

7. IRREGULAR PROPOSALS

Unauthorized conditions, limitations, or provisions attached to a proposal will render it irregular and may cause its rejection. The completed proposal forms shall be without interlineation, alterations, or erasures. Alternative proposals will not be considered unless specifically requested. No oral, telegraphic, or telephonic proposal, modification, or withdrawal will be considered.

8. TAXES

No mention shall be made in the proposal of Sales Tax, Use Tax, or any other tax, as all amounts bid will be deemed and held to include any such taxes which may be applicable.

However, Contractor shall review the Direct Payment Process established under State Revenue and Taxation Code 7051.3 and, if eligible, use the permit so that the local share of its use tax payments is allocated to the City of Laguna Hills. Contractor will provide the City with either a copy of the direct payment permit or a statement certifying ineligibility to qualify for the permit.

9. DISQUALIFICATION OF BIDDERS

In the event that any bidder acting as a prime contractor has an interest in more than one proposal, all such proposals will be rejected, and the bidder will be disqualified. This restriction does not apply to subcontractors or suppliers who may submit quotations to more than one bidder.

No contract will be executed unless the bidder is licensed in accordance with the provisions of the State Business and Professions Code.

10. INTERPRETATION OF PLANS AND DOCUMENTS

If any person contemplates submission of a bid for the proposed contract and is in doubt as to the true meaning of any part of the plans, specifications or other proposed contract documents, or finds discrepancies in, or omissions from the drawings or specifications, he may submit to the Engineer of said AGENCY a written request for an interpretation or correction thereof prior to the scheduled bid opening. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the proposed documents shall be made only by addendum duly issued and copy of such addendum will be mailed or delivered to each person receiving a set of such documents. The Engineer will not be responsible for any other explanation or interpretations of the proposed documents. Bidder shall field review the site of the project and completely familiarize themselves with all of the work necessary to complete the project as depicted on the Plans and described in the Specifications.

11. ADDENDA OR BULLETINS

The effect of all addenda to the Contract Documents shall be considered in the bid, and said addenda shall be made a part of the contract documents and shall be returned with them. Before submitting his bid, each bidder shall inform himself as to whether or not any addenda have been issued, and failure to cover in this bid any such addenda issued, may render his bid irregular and may result in its rejection by the AGENCY.

12. LEGAL RESPONSIBILITIES

All proposals must be submitted, filed, made, and executed in accordance with State and Federal laws relating to bids for contracts of this nature whether the same are expressly referred to herein or not.

Any Bidder submitting a proposal shall by such action thereby acknowledge they have visited the full limits and extent of the construction site and agree to each and all of the terms, conditions, provisions, and requirements set forth, contemplated, and referred to in the Plans, Specifications, and Contract Documents, and to full compliance therewith.

13. AWARD OF CONTRACT

Following a review of the bids, the AGENCY shall determine whether to award the contract or to reject all bids. The award of contract, if made, will be to the lowest responsible Bidder as determined solely by the AGENCY. At the time of contract award, the successful Bidder shall hold a Class A Contractor's License or a combination of licenses, as required to perform the work, issued by the State of California. Additionally, the AGENCY reserves the right to reject any or all proposals, to accept any bid or portion thereof, to waive any irregularity, and to take the bids under advisement for the period of time stated in the "Notice Inviting Sealed Bids," all as may be required to provide for the best interests of the AGENCY. In no event will an award be made until all necessary investigations are made as to the responsibility and qualifications of the Bidder to whom the award is contemplated.

No Bidder may withdraw his proposal for a period of forty-five (45) days after the time set for opening thereof. However, the AGENCY will return all proposal guarantees within ten (10) days after the award of the contract or rejection of the bids, as the case may be, to the respective bidders whose proposals they accompany.

14. LABOR CODE

Pursuant to the provisions of Section 1773 of the Labor Code of the State of California, the AGENCY has obtained the general provisions rate per diem wages and the general prevailing rate for Holiday and overtime work in this locality for each craft, classification or type of workman needed to execute the contract from the State Director of the Department of Industrial Relations. These rates are on available at www.dir.ca.gov and copies will be made available to any interested party on request. It shall be the responsibility of the prime Contractor to comply with all applicable sections of the Labor Code.

Travel and subsistence payments to each workman needed to execute the work shall be made as such travel and subsistence payments are defined in the applicable collective bargaining agreements filed in accordance with Section 1773.8 of the Labor Code.

The Contractor shall comply with the provisions of Section 1774 of the Labor Code. Failure to comply with the subject section will subject the Contractor to penalty and forfeiture provisions of Section 1775 of the Labor Code.

Pursuant to the provisions of section 1770 of the Labor Code, the general prevailing rate of wages has been ascertained (which rate includes employer payments for health and welfare, vacation, pension and similar purposes) applicable to the work to be done, for straight time, overtime, Saturday, Sunday, and holiday work. The holiday wage rate listed shall be applicable to all holidays recognized in the collective bargaining agreement of the particular craft, classification or type of workmen concerned.

The AGENCY 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 as set forth in the contract. The possibility of wage increase 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 AGENCY on the contract.

The Contractor and subcontractor shall comply with Section 1777.6 which stipulates that it shall be unlawful to refuse to accept otherwise qualified employees as registered apprentices solely on the grounds of race, religious creed, color, national origin, ancestry, sex, or age, except as provided in Section 3077, of such employee.

Pursuant to Labor Code sections 1725.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project. This project is subject to compliance monitoring and enforcement by the Department of Industrial Relations.

15. WORKER'S COMPENSATION CERTIFICATE

Section 3700 of the State Labor Code requires that every employer shall secure the payment compensation by either being insured against liability to pay compensation with one or more insurers or by securing a certificate of consent to self-insure from the State Director of Industrial Relations.

In accordance with this Section and with Section 1861 of the State Labor Code, the contractor shall sign a Compensation Insurance Certificate which is included with the Contract Agreement, and submit same to Agency along with the other required contract documents, prior to performing any work. Reimbursement for this requirement shall be considered as included in the various items of work.

16. CLAYTON ACT AND CARTWRIGHT ACT

In accordance with Section 7103 of the Public Contract Code, in entering into a public works contract or a subcontract to supply goods, services or materials pursuant to a public works contract, the contractor or subcontractor offers and agrees to assign to the awarding body all rights, and interest in and all causes of action it may have under Section 4 of the Clayton Act (15 U.S.C. Sec. 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 payment to the contractor, without further acknowledgment by the parties.

17. SUBLETTING AND SUBCONTRACTING

Pursuant to the Subletting and Subcontracting Fair Practices Act (commencing with Section 4100 of the Public Contract Code), bidders are required to list in their proposal the name and location of place of business of each subcontractor who will perform work or labor or render services in or about the construction of the work or improvement or a subcontractor who specifically fabricates and installs a portion of the work or improvement according to detailed drawings contained in the Plans and Specifications in excess of $\frac{1}{2}$ of 1% of this prime Contractor's total bid or \$10,000, whichever greater. If the bidder fails to list a subcontractor for a portion of work or if the bidder lists more than one subcontractor for the same portion of work in excess of $\frac{1}{2}$ of 1% of the prime Contractor's total bid or \$10,000, whichever is greater, the bidder agrees that he or she is fully qualified to perform that portion of work himself or herself, and that the bidder shall perform that portion of work himself or herself. If after award of the contract, the bidder subcontracts, except as provided in Section 4107 or 4109 of the Public Contract Code, any portion of the work in question, the bidder shall be subject to the penalties listed in Section 4111. It is the AGENCY's intent for the Subletting and Subcontracting Fair Practices Act to apply to all phases of the work.

18. SUBSTITUTION OF SECURITIES

In conformance with Public Contract Code Section 22300, the contractor may substitute securities for any monies withheld by the AGENCY to ensure performance under the contract or in the alternative, may request payment of retentions earned directly to an escrow agent as follows.

- a) At the request and expenses of the contractor, securities equivalent to the amount withheld shall be deposited with the public agency, or with a state or federally chartered bank in this state as the escrow agent, who shall then pay those moneys to the contractor. Upon satisfactory completion of the contract, the securities shall be returned to the contractor.
- b) Alternatively, the contractor may request and the owner shall make payment of retentions earned directly to the escrow agent at the expense of the contractor. At the expense of the contractor, the contractor may direct the investment of the payments into securities and the contractor shall receive the interest earned on the investments upon the same terms provided for in this section for securities deposited by the contractor. Upon satisfactory completion of the contract, the contractor shall receive from the escrow agent all securities, interest, and payments received by the escrow agent from the owner, pursuant to the terms of this section.

- c) Securities eligible for investment under this section shall include those listed in Section 16430 of the Government Code, bank or savings and loan certificates of deposit, interest-bearing demand deposit accounts, standby letter of credit, or any other security mutually agreed to by the contractor and the public agency.

The type of securities deposited and the method of release shall be approved by the City Attorney's office.

The full five percent (5%) retention will be deducted from all payments. The final retention will be authorized for payment thirty-five (35) days after the date of recordation of the Notice of Completion, if no liens have been filed.

BIDDER'S NAME _____

CITY OF LAGUNA HILLS

PROPOSAL
FOR
TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112

TO **City of Laguna Hills**, as AGENCY:

In accordance with AGENCY's "Notice Inviting Sealed Bids," the undersigned BIDDER hereby proposes to furnish all materials, equipment, tools, labor, and incidentals required for the above stated project as set forth in the Plans, Specifications, and contract Documents therefore, and to perform all work in the manner and time prescribed therein.

BIDDER declares that this proposal is based upon careful examination of the work site, Plans, Specifications, Instructions to Bidders, and Contract Documents. If this proposal is accepted for award, BIDDER agrees to enter into a contract with AGENCY at the unit and/or lump sum prices set forth in the following Proposal Bid Sheet. BIDDER understands that failure to enter into a contract in the manner and time prescribed will result in forfeiture to AGENCY of the Bid Bond accompanying this proposal.

BIDDER understands that a bid is required for the entire work, the estimated quantities set forth in the Proposal Bid Sheet are solely for the purpose of comparing bids, and that final compensation under the contract will be based upon the actual quantities of work satisfactorily completed. It is agreed that the unit and/or lump sum prices bid include all appurtenant expenses, taxes, royalties, and fees. In the case of discrepancies in the amounts bid, unit prices shall govern over extended amounts.

BIDDER agrees and acknowledges that he is aware of the provisions of Section 3700 of the Labor Code which requires every employer to be insured against liability for workman's compensation or to undertake self-insurance in accordance with the provisions of that code, and that the BIDDER will comply with such provisions of that code before commencing the performance of this Contract if awarded to it.

BIDDER certifies that in all previous contracts or subcontracts, all reports which may have been due under the requirements of any agency, State or Federal equal employment opportunity orders have been satisfactorily filed, and that no such reports are currently outstanding.

BIDDER declares that the only persons or parties interested in this proposal as principals are those named herein; that no officer, agent, or employee of the AGENCY is personally interested, directly or indirectly, in this proposal; that this proposal is made without connection to any other individual firm, or corporation making a bid for the same work; and that this proposal is in all respects fair and without collusion or fraud.

BIDDER certifies that affirmative action has been taken to seek out and consider disadvantaged business enterprises for those portions of the work to be subcontracted, and that such affirmative actions have been carefully documented, that said documentation is open to inspection, and that said affirmative action will remain in effect for the life of any contract awarded hereunder. Furthermore, BIDDER certifies that affirmative action will be taken to meet all equal employment opportunity requirements of the contract documents.

BIDDER'S NAME: _____ DATE _____

BIDDER'S ADDRESS: _____ BY _____
(Print Name)

TITLE

(Signature)

PHONE (____) _____ BY _____

TITLE _____

(Signature)

Signatures to be Notarized,
Attach ACKNOWLEDGMENT

BIDDER'S INFORMATION

BIDDER certifies that the following information is true and correct:

Bidder's Name _____

Business Address

FAX No. (____) _____ Telephone (____) _____

E-Mail address: _____

State Contractor's License No. and Class _____

Original Date Issued _____ Expiration Date _____

The following are the names, titles, addresses, and phone numbers of all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest in this proposal: _____

The dates of any voluntary or involuntary bankruptcy judgments against any principal having an interest in this proposal are as follows: _____

All current and prior DBA's, alias, and/or fictitious business names for any principal having an interest in this proposal are as follows:

BY _____
(Print Name)

(Signature)

TITLE _____

DATE _____

Signatures to be Notarized, Attach ACKNOWLEDGMENT

BIDDER'S NAME _____

LIST OF SUBCONTRACTORS

BIDDER proposes to subcontract certain portions of the work, and to procure materials and equipment from suppliers and vendors as follows:

Subcontractor's Name _____ DBE: YES/NO
Address _____
License No. and Class _____
Percent of Total Contract _____
Specific Items of Work _____

Subcontractor's Name _____ DBE: YES/NO
Address _____
License No. and Class _____
Percent of Total Contract _____
Specific Items of Work _____

Subcontractor's Name _____ DBE: YES/NO
Address _____
License No. and Class _____
Percent of Total Contract _____
Specific Items of Work _____

Subcontractor's Name _____ DBE: YES/NO
Address _____
License No. and Class _____
Percent of Total Contract _____
Specific Items of Work _____

Subcontractor's Name _____ DBE: YES/NO
Address _____
License No. and Class _____
Percent of Total Contract _____
Specific Items of Work _____

Subcontractor's Name _____ DBE: YES/NO
Address _____
License No. and Class _____
Percent of Total Contract _____
Specific Items of Work _____

ATTACH ADDITIONAL SHEETS AS NECESSARY

BIDDER'S NAME _____

REFERENCES

The following are the names, addresses, and phone numbers for three public agencies for which BIDDER has performed similar work within the past two years:

DESIGNATION OF SURETIES

The following are the names, addresses, and phone numbers for all brokers and sureties from whom BIDDER intends to procure insurance and bonds:

CONTRACTOR'S LICENSING STATEMENT

Bidder certifies that the following is true and correct. The undersigned is licensed in accordance with the laws of the State of California providing for the registration of Contractors.

Contractor's License Number _____

Contractor's Department of Industrial Relations Number _____

Name of Individual Contractor (Print or type): _____

Signature of Owner(s) _____

Business Address _____

or

Name of Company _____

Business Address _____

Officers:

Name _____

Name _____

Name _____

or

Name of Corporation

Business Address

Corporation organized under the laws of the State of California

Signature of President of Corp./Company

Signature of Secretary of Corp./Company

(SEAL)

ALL SIGNATURES SHALL BE NOTARIZED, ATTACH ACKNOWLEDGMENT.

Bond Amount \$ _____
Bond Number _____

BIDDER'S BOND

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, _____ (the "Principal") has submitted a bid (the "Bid") to the City of Laguna Hills, California (the "City") for construction of the TRAFFIC SIGNAL – ALICIA PARKWAY AT COMMUNITY CENTER DRIVE, CIP NO. 112 (the "Work"), as specifically set forth in documents entitled TRAFFIC SIGNAL – ALICIA PARKWAY AT COMMUNITY CENTER DRIVE, CIP NO. 112, Dated: JULY 28, 2020, (the "Specifications").

AND WHEREAS, the Principal is required to provide bidder's security in an amount equal to at least ten percent (10%) of the amount of the Bid and has chosen to satisfy this obligation by providing this bond.

NOW, THEREFORE, we, the Principal, and _____ (the "Surety"), an admitted surety insurer in the State of California, are held firmly bound unto the City of Laguna Hills in the sum of _____ and 00/100 DOLLARS (\$_____.00), lawful money of the United States of America, for the payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents, this amount being ten percent (10%) of the total amount of the Bid.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

1. If (a) the City accepts the Bid and awards the Principal a contract for the Work, and (b) within the time and manner required under the Specifications or by law, after the prescribed forms are presented to the Principal for signature, the Principal executes a written contract for construction of the Work in accordance with the Bid and delivers the required faithful performance and payment bonds and insurance policies, then this obligation shall become null and void; otherwise it shall be and remain in full force and effect.
2. The Surety, for value received, hereby stipulates and agrees that the obligation of said Surety and its bond shall be in no way impaired or affected by any

BID BOND (PAGE 2 OF 2)

extension of the time within which the City may accept such Bid; and said Surety does hereby waive notice of any such extension.

3. In the event suit is brought upon this bond by the City and judgment is recovered, as part of the obligation secured hereby and in addition to the face amount specified in this bond, the Surety shall pay all costs incurred by the City in such suit, including reasonable attorneys' fees to be fixed by the court.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named on the ____ day of _____, 2020.

PRINCIPAL

SURETY

(Principal Name) (Seal)

(Surety Name) (Seal)

By: _____
(Signature)

By: _____
(Signature)

(Print Name and Title)

(Print Name and Title)

By: _____
(Signature)

By: _____
(Signature)

(Print Name and Title)

(Print Name and Title)

Principal Address and Telephone:

Surety Address and Telephone:

Affix Corporate Seals
Attach Notary Acknowledgments for All
Signatures
Attach Power-of-Attorney if Executed
by Attorney-in-Fact 1263442.1

BIDDER'S NAME _____

NONCOLLUSION AFFIDAVIT TO BE EXECUTED BY BIDDER AND
SUBMITTED WITH BID FOR
TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112

STATE OF CALIFORNIA)
) SS
COUNTY OF)

_____, 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 such
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 agency thereof to effectuate a collusive or sham bid.

Signed

Name (print)

Title

Date

Signatures to be Notarized,
Attach ACKNOWLEDGMENT

BIDDER'S NAME_____

CITY OF LAGUNA HILLS

PROPOSAL BID SHEETS

FOR

TRAFFIC SIGNAL REPAIR

ALICIA PARKWAY AT COMMUNITY CENTER DRIVE

CIP NO. 112

ITEM NO.	ITEM	UNIT	QUANTITY	UNIT PRICE	AMOUNT
1	Clearing and Grubbing	LS	1		
2	Coordinate, Receive and Install Agency Furnished Materials	LS	1		
3	Furnish and Install specified Internally Illuminated Street Name Signs	EA	3		
4	Traffic Signal Construction	LS	1		
TOTAL BID IN FIGURES				\$	

TOTAL BID IN WORDS:

_____DOLLARS

AND _____CENTS

NOTE: The estimated quantities listed in the Proposal Bid Sheet(s) are supplied to give an indication of the general scope of the work, but the accuracy of these figures is not guaranteed and the bidder shall make his own estimates from the drawings, plans or tables identifying the work. In case of a variation between the unit price and the totals shown by the bidder, the unit price will be considered to be the bid. Except where a lump sum is requested, in the case of a variation between the unit price and the total(s) shown by the bidder, the unit price will be used to calculate the total for the item based on the number of units involved in the item. Upon completion of the

construction, if the actual quantities show either an increase or decrease from the quantities given in the Proposal Bid Sheet(s), the Contract Unit Price will prevail. Increases or decreases in quantities shall not be subject to Section 7-3.5.2 or 7-3.5.3 of the Standard Specifications. Full compensation to be paid will be the contract price for the actual work completed, and no additional compensation will be allowed therefor. Payment will not be made for materials wasted or disposed of in a manner not called for under the Contract, this includes rejected material not unloaded from vehicles.

Bidder further acknowledges:

Pursuant to Labor Code sections 1775.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractors' current registration with the Department of Industrial Relations to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the Project.

Bidder shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.

BIDDER shall supply City with a copy of their W-9 form at pre-construction meeting.

PROPOSAL

IN WITNESS WHEREOF, BIDDER executes and submits this proposal with the names, titles, hands, and seals of all forenamed principals this _____day of _____, 2020.

BIDDER'S NAME:_____

ADDRESS:_____

BY:_____

SIGNATURE

PRINT NAME

TITLE

Signatures to be Notarized,
Attach ACKNOWLEDGMENT

By

(Print)

(Signature)

Title

CITY OF LAGUNA HILLS
CONTRACT AGREEMENT
FOR
TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112

THIS CONTRACT AGREEMENT is made and entered into for the above stated project this _____ day of _____, 2020, BY AND BETWEEN THE CITY OF LAGUNA HILLS, as AGENCY, and _____ as CONTRACTOR.

WITNESSETH that AGENCY and CONTRACTOR have mutually agreed as follows:

ARTICLE I

The contract documents for the aforesaid project shall consist of: the Notice Inviting Sealed Bids; Instructions to Bidders; Proposal; General Specifications; Standard Specifications; Special Provisions; Plans; and all referenced specifications, details, standard drawings, and appendices; together with this Contract Agreement and all required bonds, insurance certificates, permits, notices, and affidavits; and also including any and all addenda or supplemental agreements clarifying, amending, or extending the work contemplated as may be required to insure its completion in an acceptable manner. All of the provisions of said contract documents are made a part hereof as though fully set forth herein.

ARTICLE II

For and in consideration of the payments and agreements to be made and performed by AGENCY, CONTRACTOR agrees to furnish all materials and perform all work required for the above stated project, and to fulfill all other obligations as set forth in the aforesaid documents.

ARTICLE III

CONTRACTOR agrees to receive and accept the prices set forth in the Proposal as full compensation for furnishing all materials, performing all work, and fulfilling all obligations hereunder. Said compensation shall cover all expenses, losses, damages, and consequences arising out of the nature of work during its progress or prior to its acceptance including those for well and faithfully completing the work and the whole thereof in the manner and time specified in the aforesaid contract documents; and also including those arising from actions of the elements, unforeseen difficulties or obstructions encountered in the prosecution of the work, suspension or discontinuance of the work, and all other unknowns or risks of any description connected with the work.

ARTICLE IV

AGENCY hereby promises and agrees to employ, and does hereby, CONTRACTOR to provide the materials, do the work, and fulfill the obligations according to the terms and conditions herein contained and referred to, for the prices aforesaid, and hereby contracts to pay the same at the time, in manner, and upon the conditions set forth in the contract documents.

ARTICLE V

CONTRACTOR acknowledges the provisions of the State Labor Code requiring every employee to be insured against liability for worker's compensation, or to undertake self-insurance in accordance with the provisions of that code, and certifies compliance with such provisions.

ARTICLE VI

To the fullest extent permitted by law, CONTRACTOR shall defend, indemnify, and hold its officers, employees, and agents harmless from and against any and all liability, claims, suits, actions, damages, and causes of action arising out of any agreement, personal injury, bodily injury, loss of life, or damage to property, or any violation of any federal, state or municipal law or ordinance, or other cause in connection with the acts or omissions of CONTRACTOR, its employees, subcontractors, or agents, or on account of the performance or character of this work, except for any such claim arising out of the sole or active negligence or willful misconduct of the AGENCY, its officers, employees, or agents. It is understood that the duty of the CONTRACTOR to indemnify and hold harmless includes the duty to defend and pay attorney's fees as set forth in Section 2778 of the California Civil Code. Acceptance of insurance certificates and endorsements required under this agreement does not relieve CONTRACTOR from liability under this indemnification and hold harmless clause. This defense, indemnification and hold harmless clause shall apply whether or not such insurance policies shall have been determined to be applicable to any of such damages or claims for damages.

ARTICLE VII

CONTRACTOR affirms that the signatures, titles, and seals, set forth hereinafter in execution of this Contract Agreement represent all individuals, firm members, partners, joint ventures, and/or corporate officers having a principal interest herein.

CONTRACT AGREEMENT

IN WITNESS WHEREOF the parties hereto have caused this Agreement to be executed the day and year first written.

CONTRACTOR:

(CORPORATE NAME-TYPE)

BY: _____
President (Print Name)

(SIGNATURE)

BY: _____
Secretary/Treasurer (Print Name)

(SIGNATURE)

TITLE: _____

NOTE: SIGNATURES OF CORPORATE OFFICIALS MUST BE
NOTARIZED, ATTACH ACKNOWLEDGMENT.

CITY OF LAGUNA HILLS:

Janine Heft, Mayor

ATTEST:

Melissa Au-Yeung

CONTRACT APPROVED AS TO FORM:

Gregory E. Simonian, City Attorney

(PAGE 1 OF 2)

Bond Amount \$ _____
Bond Number _____

CITY OF LAGUNA HILLS
FAITHFUL PERFORMANCE BOND
FOR
TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, on _____, 2020, the City of Laguna Hills, California ("City") awarded a public works contract (the "Contract"), delineated as Contract No. CIP 112, for the TRAFFIC SIGNAL REPAIR – ALICIA PARKWAY AT COMMUNITY CENTER DRIVE, CIP NO. 112, as specified in the Contract, to, XXX, a CALIFORNIA CORPORATION, hereby designated as the "Principal", which Contract is attached hereto, and which Contract and all documents incorporated therein by reference are expressly incorporated into this bond by reference.

AND WHEREAS, the Principal is required under the terms of the Contract to furnish a bond for the faithful performance of the Contract.

NOW, THEREFORE, we, the Principal, and _____ (the "Surety"), an admitted surety insurer in the State of California, are held firmly bound unto the City of Laguna Hills in the sum of XXXX and 00/100 Dollars (\$0.00), lawful money of the United States of America, for the payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

1. If the Principal, its heirs, executors, administrators, successors or assigns, shall in all things stand to and abide by, and well and truly do and perform all of the covenants and obligations of the Contract, including the provisions for liquidated damages in said Contract, and including any and all amendments, supplements, and alterations made to the Contract as provided therein, on the Principal's part to be done and performed at the times and in the manner specified in the Contract, and shall indemnify and save harmless the City, its officers and agents as specified in the Contract, then this obligation shall be null and void, otherwise it shall be and remain in full force and effect;
2. In the event the Principal fails to fully perform all requirements in accordance with the terms and conditions of the Contract, then the Surety shall enforce performance by the Principal or shall pay the City for the same in an amount not exceeding the amount specified in this bond.

3. In the event suit is brought upon this bond by the City and judgment is recovered, as part of the obligation secured hereby and in addition to the face amount specified in this bond, the Surety shall pay all costs incurred by the City in such suit, including reasonable attorneys' fees to be fixed by the court.

4. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alterations, additions, omissions or other modifications to the terms of the Contract, or in the work to be performed or the material to be furnished under the Contract, or in the specifications or plans, whether or not made pursuant to the terms of the Contract, shall in any manner release either the Principal or Surety or affect the Surety's obligations on this bond, and it does hereby waive notice of any such changes, extensions, alterations, additions, omissions or other modifications.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named on the ____ day of _____, 2020.

PRINCIPAL

SURETY

(Principal Name) (Seal)

(Surety Name) (Seal)

By: _____
(Signature)

By: _____
(Signature)

(Print Name and Title)

(Print Name and Title)

By: _____
(Signature)

By: _____
(Signature)

(Print Name and Title)

(Print Name and Title)

Principal Address and Telephone:

Surety Address and Telephone

Affix Corporate Seals

Attach Notary Acknowledgments for All Signatures

Attach Power-of-Attorney if Executed by Attorney-in-Fact

1263387.1

(PAGE 1 OF 2)

Bond Amount \$ _____
Bond Number _____

CITY OF LAGUNA HILLS
PAYMENT (LABOR AND MATERIAL) BOND
FOR
TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112

KNOW ALL PERSONS BY THESE PRESENTS:

THAT WHEREAS, on _____, 2020, the City of Laguna Hills, California ("City") awarded a public works contract (the "Contract"), delineated as Contract No. CIP, 112, for the TRAFFIC SIGNAL REPAIR – ALICIA PARKWAY AT COMMUNITY CENTER DRIVE, as specified in the Contract, to, XXX, a CALIFORNIA CORPORATION, hereby designated as the "Principal", which Contract is attached hereto, and which Contract and all documents incorporated therein by reference are expressly incorporated into this bond by reference.

AND WHEREAS, the Principal is required under the terms of the Contract to give this bond in connection with the execution of the Contract.

NOW, THEREFORE, we, the Principal, and _____ (the "Surety"), an admitted surety insurer in the State of California, are held firmly bound unto the City of Laguna Hills in the sum of XXXX and 00/100 Dollars (\$0.00), lawful money of the United States of America, for the payment of which sum, well and truly be made, we bind ourselves, our heirs, executors, administrators, successors, and assigns, jointly and severally, firmly by these presents.

THE CONDITIONS OF THIS OBLIGATION ARE SUCH THAT:

1. If the Principal, or its subcontractors, or their respective heirs, executors, administrators, successors or assigns, shall fail to pay (a) any of the persons named in Section 9100 of the California Civil Code, (b) any amounts due under the California Unemployment Insurance Code with respect to work or labor performed under the Contract, or (c) any amounts required to be deducted, withheld, and paid over to the Employment Development Department from the wages of employees of the Principal and its subcontractors pursuant to Section 13020 of the California Unemployment Insurance Code with respect to such work or labor, then the Surety shall pay for the same, in an aggregate amount not exceeding the sum specified in this bond. In case suit is brought upon this bond, the Surety will pay reasonable attorney's fees to be fixed by the court.
2. This bond shall inure to the benefit of any of the persons named in Section 9100 of the California Civil Code so as to give a right of action to such persons or their assigns in any suit brought upon this bond.

3. The Surety, for value received, hereby stipulates and agrees that no change, extension of time, alterations, additions, omissions or other modifications to the terms of the Contract, or in the work to be performed or the material to be furnished under the Contract, or in the specifications or plans, whether or not made pursuant to the terms of the Contract, shall in any manner release either the Principal or Surety or affect the Surety's obligations on this bond, and it does hereby waive notice of any such changes, extensions, alterations, additions, omissions or other modifications.

IN WITNESS WHEREOF, this instrument has been duly executed by the Principal and Surety above named on the ____ day of _____, 2020.

PRINCIPAL

SURETY

(Principal Name) (Seal)

(Surety Name) (Seal)

By: _____
(Signature)

By: _____
(Signature)

(Print Name and Title)

(Print Name and Title)

By: _____
(Signature)

By: _____
(Signature)

(Print Name and Title)

(Print Name and Title)

Principal Address and Telephone:

Surety Address and Telephone

Affix Corporate Seals

Attach Notary Acknowledgments for All Signatures

Attach Power-of-Attorney if Executed by Attorney-in-Fact

1256827.1

CITY OF LAGUNA HILLS
GENERAL SPECIFICATIONS FOR
TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112

SCOPE OF WORK

The work to be done consists of furnishing all materials, equipment, tools, labor, and incidentals as required by the Contract Documents for the above stated project. The work generally consists of unclassified excavation, removal and replacement of one traffic signal pole, one controller cabinet, and appurtenant equipment, temporary pole, concrete work and related work.

LOCATION OF WORK

The work to be constructed hereunder is located at the intersection of Alicia Parkway at Community Center Drive, Laguna Hills, CA 92653.

TIME COMPLETION

The Contractor shall complete all work in every detail within forty (40) working days after the date of the Notice to Proceed and receipt of Agency furnished materials, exclusive of maintenance periods.

TRAFFIC REQUIREMENTS

The Contractor shall provide delineation in accordance with the latest updated version of the Work Area Traffic Control Handbook (WATCH) and/or California Department of Transportation Traffic Manual. Contractor shall provide a Traffic Control Plan to the satisfaction of the City Engineer. No street closures shall be made in this project without the prior approval of the City Engineer. The section of the streets to be closed each day shall be selected with the approval of the City Engineer such that residents along the affected local streets will be able to park within a reasonable walking distance of their homes. The following requirements shall also apply: 1) 72 hours written notice to residents/businesses prior to establishing No Parking Zones and for any scheduled slurry seal or AC overlay work, and 2) no lane closure on arterial highways except between the hours of 9 a.m. to 4 p.m. Any work on Arterial Highways shall require the posting of two changeable message signs per work area, as directed by the City Engineer.

UTILITY REQUIREMENTS

The Contractor is advised of the existence of the utility notification service provided by UNDERGROUND SERVICE ALERT (USA). USA member utilities will provide the

Contractor with the precise locations of their substructures in the construction area when the Contractor gives at least 48 hour notice to the Underground Service Alert by calling 1(800) 422-4133. Contractor shall provide the agency with proof of contact with USA prior to any excavation upon request.

The Contractor shall notify the following agencies at least 48 hours in advance of excavating around any of their structures. The utility companies listed below can be contacted as indicated.

NAME	ADDRESS	CITY, STATE, ZIP	ATTENTION	Phone Number
AT&T	1265 N. Van Buren St. #180	Anaheim, CA 92807	David Goldstein	714/666-5696
OCTA	550 S. Main Street	Orange, CA 92613-1584	Kyle Poff	714/560-5816
Southern California Edison	14155 Bake Parkway	Irvine, CA 92718	Chris Schafer	949/458-4413
Gas Company	1919 South State College	Anaheim, CA 92806	Mike Duenaz	714/634-3158
Gas Company Southern Region Transmission	P. O. Box 1100	Chatsworth, CA 91313	Rosalyn Squires	818/701-4546
CR&R	P.O. Box 1100	San Juan Capistrano, CA 92693-1100	Mike Campuzano	949/254-1779
Saddleback Unified School District	25631 Diseno Drive	Mission Viejo, CA 92691	Frank Manzo	949/580-3335
Moulton Niguel Water District	27500 La Paz Road	Laguna Niguel, CA 92677	Steve Merk	949/425-3538
Cox Communication	27121 Towne Centre Drive	Foothill Ranch, CA 92610	Reynaldo Castro	949/563-8889
San Diego Gas & Electric	662 Camino de los Mares	San Clemente, CA 92673	Dolphus D. Davis	949/369-4721

The California Public Commission mandates that, in the interest of public safety, main line gas valves be maintained in a manner to be readily accessible and in good operating condition. The Contractor shall notify the Southern California Gas Company's Headquarters Planning Office at (714) 369-0680 at least 2 working days prior to the start of construction.

The Contractor shall exercise extreme care to protect all existing utilities in place whether shown on the plans or not, and shall assume full responsibility for all damage resulting from his operations. The Contractor shall coordinate with each utility company as to the requirements and methods for protection of their facilities during the construction period, and shall be responsible for preparation and processing of any required plans or permits. The Contractor shall assume full responsibility to maintain uninterrupted service for all utilities.

By submitting a bid, the Contractor acknowledges the above referenced utility work to be done in conjunction with this project. The Contractor shall schedule his work and conduct his operations so as to permit access and time for the required utility work as shown on the proposal bid sheet and no additional compensation will be allowed.

FLOW AND ACCEPTANCE OF WATER

It is anticipated that storm, surface or other waters will be encountered at various times and locations during the work herein contemplated. The Contractor, by submitting a bid, acknowledges that he has investigated the risk arising from such waters and has prepared his bid accordingly, and Contractor, by submitting a bid, assumes all of said risk. The Contractor shall prepare a Stormwater Pollution Prevention Plan, shall use Best Management Practices and comply with all NPDES and State Construction Permit requirements pertaining to water quality to minimize adverse water quality impacts from the project before initiating construction. The payment for this work of plan preparation and field implementation, as required, and compliance with permits is deemed included in the lump sum price paid for Water Quality Management and no additional compensation shall be allowed therefore.

REMOVAL OF WATER

The Contractor shall provide and maintain at all times during construction ample means and devices to promptly remove and properly dispose of all water entering the excavations or other parts of the work. No concrete footing or floor shall be laid in water nor shall water be allowed to rise over them until the concrete or mortar has set at least two (2) hours. Water shall not be allowed to rise unequally against any walls for a period of twenty-eight days (28). Dewatering for the structures and pipelines shall commence when ground water is first encountered, and shall be continuous until such time as water can be allowed to rise in accordance with the above statement. Dewatering shall be accomplished by well points or some other method which will insure a dry hold and preservation of final lines and grade of the bottoms of excavation, all subject to the approval of the Engineer.

Dewatering methods and disposal of water from dewatering operations shall be the sole responsibility of the Contractor and shall conform to the requirements of the State Regional Water Quality Control Board, the requirements of the National Pollution Discharge Elimination System (NPDES), and the Federal Clean Water Act. Full compensation for dewatering shall be considered as included in the contract prices paid for the lump sum price paid for Water Quality Management, and no additional compensation will be allowed therefore.

The Contractor shall conform all operations to be in compliance with NPDES and shall utilize Best Management Practices for control of all pollutants.

WASTE DISPOSAL

Contractor shall only utilize waste containers from the City Franchisee, CR&R, (P. O. Box 1100, San Juan Capistrano, CA 92693-1100, 949-728-0446 Ext. 1232) for all recyclables and waste debris. Contractor shall record the quantity (tons) of recyclable or green waste materials diverted from land fills and report this data to the City at the end of the project.

STANDARD SPECIFICATIONS

The Standard Specifications of the Agency are contained in the most recent edition (2018) of the STANDARD SPECIFICATION FOR PUBLIC WORKS CONSTRUCTION, including all supplements, as written and promulgated by the Joint Cooperative Committee of the Southern California Chapter of the American Public Works Association and the Southern California District of the Associated General Contractors of California. Copies of these Standard Specifications are available from the publisher:

Building News, Incorporated
P.O. Box 3031 Terminal Annex
Los Angeles, California 90051
(310) 202-7775

The Standard Specifications set forth above will control the general provisions for this contract except as amended by the Plans, General Specifications, Special Provisions, or other contract documents.

The section numbers of the following Special Provisions coincide with those of the said Standard Specifications. Only those sections requiring amendment or elaboration, or specifying options, are called out.

In case of conflict between the Standard Specifications and the General Specifications or Special Provisions, the General Specifications and Special Provisions shall take precedence over and be used in lieu of such conflicting portions of the Standard Specifications.

References in the Special Provisions to "CALTRANS Standard Specifications" shall mean the Standard Specifications (2010) of the State of California, Department of Transportation. Copies of these specifications and standard drawings may be obtained from:

State of California - Department of Transportation
Central Publication Distribution Unit
6002 Folsom Boulevard
Sacramento, California 95819

References in the Special Provisions to Standard Plans shall mean those specific standard plans as selected by the City Engineer from the Standard Plans of the City of Laguna Hills, and where applicable, the APWA Standard Plans for Public Works Construction, 2009 Edition, the Standard Plans of the County of Orange 2013 Edition, and State Department of Transportation, May 2010 Edition.

Where the Plans or Specifications describe portions of the work in general terms, but not in complete detail, it is understood that the item is to be furnished and installed complete and in place and that only the best general practice is to prevail and that only materials and workmanship of the first quality are to be used. Unless otherwise specified, the Contractor shall furnish all labor, materials, tools, equipment and incidentals, and do all the work involved in executing the contract.

WAGE RATES AND LABOR CODE REQUIREMENTS

Pursuant to Labor Code sections 1775.5 and 1771.1, all contractors and subcontractors that wish to bid on, be listed in a bid proposal, or enter into a contract to perform public work must be registered with the Department of Industrial Relations. No bid will be accepted nor any contract entered into without proof of the contractor's and subcontractor's current registration with the Department of Industrial Relations to perform public work. If awarded a Contract, the Bidder and its subcontractors, of any tier, shall maintain active registration with the Department of Industrial Relations for the duration of the project.

Bidder shall include the requirements of Labor Code sections 1725.5 and 1771.1 in its contract with subcontractors and ensure that all subcontractors are registered at the time of bid opening and maintain registration status for the duration of the project.

Wage Rates

Copies of the State prevailing wage rates and the latest revisions thereto are available on the internet, www.dir.ca.gov the State of California Department of Industrial Relations under Statistics and Research. The contractor shall comply with the current wage rates.

Attention is directed to the provisions of Sections 1776, 1777.5, and 1777.6 of the State Labor Code. Section 1776 requires the Contractor and all subcontractors to keep accurate

payroll records, specifies the contents thereof, their inspection and duplication procedures, and certain notices required of the Contractor pertaining to their location.

Apprentices

Section 1777.5 requires the Contractor or Subcontractor employing tradesman in any apprenticeable occupation to apply to the Joint Apprentice Committee nearest the site of the public works project and which administers the apprenticeship program in that trade for a certificate approval. The certificate will also fix the ratio of apprentices to journeyman to be used in the performance of the contract.

The Contractor is required to make contributions to funds established for the administration of apprenticeship programs if he employs registered apprentices to journeymen in any apprenticeable trade and if other Contractors on the public works site are making such contributions.

Information relative to apprenticeship standards, contributions, wage schedules and other requirements may be obtained from the State Director of Industrial Relations or from the Division of Apprenticeship Standards.

The Contractor shall not employ, or allow work to be performed by, a subcontractor who is ineligible to perform work on the project pursuant to Section 1777.1 or 1777.7 of the Labor Code pertaining to debarment by the Labor Commissioner for violations of the Prevailing Wage Laws.

RESOLUTION OF CONSTRUCTION CLAIMS

California Public Contract Code (PCC) section 9204 as adopted by Assembly Bill 626 prescribes a process to present, confer, and mediate all construction claims relating to the City's public works project.

"Public works project" means the erection, construction, alteration, repair, or improvement of any public structure, building, road, or other public improvement of any kind.

"Claim" means a separate demand by the Contractor sent by registered mail or certified mail with return receipt requested for (A) a time extension, including, without limitation for relief from damages or penalties for delay assessed by a public entity under a contract for a public works project (B) payment of money or damages arising from work done by or on behalf of the Contractor pursuant to the contract for a public works project and payment for which is not otherwise expressly provided or to which the claimant is not otherwise entitled, or the amount the payment of which is disputed by the local agency. (PCC 9204(c)(1))

For any claim subject to this article, PCC section 9204 requires the following:

- a) The claim shall be submitted by the Contractor in writing, sent by registered mail or certified mail with return receipt requested and must include the documents necessary to substantiate the claim. Nothing in this subdivision is intended to extend the time limit or supersede notice requirements otherwise provided by contract for the filing of claims. However, upon receipt of a claim, the City and the Contractor may, by mutual agreement, extend the time period provided by statute.
- b) For claims of all amounts, the City shall respond within 45 days of receipt of the claim, and provide the claimant a written statement identifying which portion of the claim is disputed and which portion of the claim is undisputed. If the City requires approval from the City Council, and the City Council does not meet within the 45-day period to respond, the City shall have up to three days to issue its response following the City Council meeting.
- c) For all portions of a claim determined to be undisputed, the City must process payment to the claimant within 60 days of issuing the City's written determination.
- d) If the claimant disputes the City's response, or if the City fails to respond within the time limits provided, the claimant may demand an informal conference to meet and confer for settlement of the issues in dispute. The demand must be sent in writing by registered or certified mail, return receipt requested. Upon receipt of a demand, the City must schedule a meet and confer conference within 30 days for settlement of the disputed claim.
- e) Within 10 business days following the conclusion of the meet and confer conference, if any portion of the claim remains in dispute, the City shall provide the claimant an addition written statement identifying the portion of the claim that is undisputed and the portion that remains in dispute.
- f) For all portions of a claim determined to be undisputed, the City must process payment to the claimant within 60 days of issuing the City's written determination.
- g) Any remaining undisputed portion of the claim, as identified by the Contractor in writing, shall be submitted to nonbinding mediation in which the parties share the cost evenly. The City and the claimant shall mutually agree to a mediator within 10 business days after the disputed portion of the claim has been identified in writing. If the parties cannot agree, each party shall select a mediator and those mediators shall jointly select a qualified, neutral third party to mediate the remaining undisputed claim. Each party shall bear the respective costs charged by its respective mediator in connection with the selection of the neutral mediator. If mediation is unsuccessful, the parts of the claim remaining in dispute shall be subject to applicable procedures outside of PCC section 9204.

Unless otherwise agreed to by the City and the Contractor in writing, the mediation conducted pursuant to this section shall excuse any further obligation under PCC Section 20104.4 to mediate after litigation has been commenced.

PCC Section 9204 does not preclude the City from requiring arbitration of disputes under private arbitration or the Public Works Contract Arbitration Program, if mediation under this section does not resolve the parties' dispute.

Should the City fail to respond to a claim, or fail to issue written statements as required, the Contractor's claim is deemed denied. A claim denied by reason of the City's failure to respond shall not constitute an adverse finding with regard to the merits of the claim or the responsibility or qualifications of the claimant.

Amounts not paid in a timely manner as required by PCC 9204 shall bear interest at seven percent per annum.

CITY OF LAGUNA HILLS

SPECIAL PROVISIONS

**TRAFFIC SIGNAL REPAIR
ALICIA PARKWAY AT COMMUNITY CENTER DRIVE
CIP NO. 112**

PART 1 - GENERAL PROVISIONS

SECTION 1 – GENERAL.

1-2 TERMS AND DEFINITIONS. [Add the following]:

Agency/City	- City of Laguna Hills
Board	- City Council
County	- County of Orange
Engineer	- City Engineer
Federal	- United States of America

1-7 AWARD AND EXECUTION OF CONTRACT.

1-7.1 General. [Replace with the following]:

Within ten (10) working days after the date of the Notice of Award, the Contractor shall execute and return the following contract documents to the Agency:

Contract Document
Faithful Performance Bond
Payment Bond
Public Liability and Property Damage Insurance Endorsements
Automobile Insurance Endorsements
IRS Form W-9 Request for Taxpayer Identification Number and Certification
Worker's Compensation Insurance Certificate

Failure to comply with the above will result in annulment of the award and forfeiture of the Proposal Guarantee at the sole discretion of Agency.

The Contract Agreement shall not be considered binding upon the Agency until executed by the authorized Agency officials. A corporation to which an award is made may be required, before the Contract Agreement is executed by the Agency, to furnish evidence of its corporate existence, of its right to enter into contracts in the State of California, and that the officers signing the contract and bonds for the corporation have the authority to do so.

1-7.2 Contract Bonds. [Add the following]:

Both the Faithful Performance Bond and the Payment Bond shall each be for not less than one hundred percent (100%) of the total contract amount and shall be from admitted insurers. The Payment Bond shall remain in force until thirty-five (35) days after the date of recordation of the Notice of Completion. The Faithful Performance Bond shall remain in full force and effect until six months after recordation of the Notice of Completion to insure satisfactory installation and operation of the facilities and improvements.

Prior to approval a Payment Bond, the City shall verify that the surety is an admitted surety in the State of California. If requested by City, the contractor shall provide other information specified in Code of Civil Procedure Section 995.660 to enable City to verify the sufficiency of the bond.

Should any bond become insufficient the Contractor shall correct the insufficiency within ten (10) calendar days after receiving notice from the Agency. The Contractor shall provide the Agency evidence of said correction within ten (10) calendar days of said correction. Should any surety at any time be unsatisfactory to the Agency, written notice will be given to the Contractor to that effect. No further payments shall be deemed due or will be made under the Contract until the Contractor submits an acceptable bond from a surety accepted by the Agency. Changes in the work or extensions of time made pursuant to the Contract shall in no way release the Contractor or Surety from its obligations. Notice of such changes or extensions shall be waived by the surety.

SECTION 2 – SCOPE OF THE WORK

2-1 WORK TO BE DONE. [Add the following]:

The Contractor shall maintain a control set of plans and specifications on the project site at all times. All final locations determined in the field, and any deviations from the Plans and Specifications, shall be marked in red on this control set to show the as-constructed conditions. Upon completion of all work, the Contractor shall return the control set to the Engineer. Final payment will not be made until this requirement has been met.

The bidder shall examine carefully the entire site of the work (as access permits), including but not restricted to the conditions and encumbrances related thereto, the plans and specifications, and the proposal and contract forms therefore. The submission of a bid shall be conclusive evidence that the bidder has investigated and is satisfied as to the conditions to be encountered, as to the character, quality, and scope of the work to be performed, the quantities of material to be furnished, and as to the requirements of the proposal, plans, specifications, and other contract documents.

2-2 PERMITS. [Replace with the following]:

Prior to the start of any work, the Contractor shall take out the applicable Agency permits and make arrangements for agency inspections. Requests for inspections shall be made to the **City of Laguna Hills**, as lead Agency, 24 hours in advance of need. The contractor and all subcontractors shall each obtain any and all other permits, licenses, inspections, certificates, or authorizations required by any governing body or public utility. Payment for this work shall be included in the bid items of work and no additional compensation will be allowed. The **City of Laguna Hills** will waive its encroachment permit fees.

Further, Contractor shall ensure that its employees, agents, and contractors and subcontractors shall conduct themselves in compliance with such laws and licensure requirements including, without limitation, compliance with laws applicable to non-discrimination, sexual harassment, and ethical behavior throughout the duration of the Contract. Contractor shall not retain or employ an unlicensed subcontractor to perform work pursuant to this Contract. Contractor shall notify the City immediately and in writing of its employees', agents', contractors' or subcontractors' inability to obtain or maintain, irrespective of the pendency of any appeal, any such licenses permits, approvals, certificates, waivers, and exemptions. Such inability shall be cause for termination of this Contract.

2-3 RIGHT-OF-WAY. [Add the following]:

The Agency will acquire all rights of way, easements and rights of entry as required for this project. The Contractor shall verify that the acquisition(s) is completed prior to beginning any work outside of the public right-of-way. In the event the required easements have not yet been acquired by the City the Contractor shall conduct his operation so as to confine his work to the limits of the existing right-of-way.

2-4 COOPERATION AND COLLATERAL WORK. [Add the following]:

The Contractor is advised as to the possibility of other construction projects within the proposed construction zone by the **City of Laguna Hills**, other governing agencies or private enterprises. In the event of such projects, the Contractor shall coordinate with the applicable parties as to the extent of any time required to complete their work and shall schedule his work and conduct his operations so as to permit access and time as required for the concurrent work. The Contractor shall immediately notify the Engineer in the event of a delay in scheduling caused solely by this concurrent work. Payment for the above, if any, shall be deemed as included in various items of work, including any delay impacts, as shown on the proposal bid sheet and no additional compensation will be allowed.

2-5 THE CONTRACTOR'S EQUIPMENT AND FACILITIES.

2-5.1 General. [Add the following]:

A noise level limit of 86 dba at a distance of fifty feet (50') shall apply to all construction equipment on or related to the job whether owned by the Contractor or

not. The use of excessively loud warning shall be avoided except in those cases required for the protection of personnel.

2-7 CHANGES INITIATED BY AGENCY.

2-7.1 General. [Replace with the following]:

The Agency may change the Plans, Specifications, character of the work, or any quantity of work. The change shall be by written Supplemental Agreement between the Contractor and Agency on Agency's Contract Change Order form.

Change Orders shall be in writing and state the dollar value of the change or establish the method of payment, any adjustment in the Contract time of completion, and when negotiated prices are involved, shall provide for the Contractor's signature indicating acceptance. Contractor shall not proceed with work without Agency's written approval.

2-10 DISPUTED WORK. [Replace with the following]:

If the Contractor considers any work demanded of him to be outside the requirements of the contract, or if he considers any instruction, ruling, or decision of the inspector or Engineer to be unfair, he shall, within ten (10) working days after any such demand is made, or instruction, ruling, or decision is given, file a written protest with the Engineer, stating clearly and in detail his objections and reasons therefore. Except for such protests and objections as are made of records, in the manner and within the time above stated, the Contractor shall be deemed to have waived and does hereby waive all claims for extra work, damages and extensions of time on account demands, instructions, rulings and decisions of the Engineer. Upon receipt of any such protest from the Contractor, the Engineer shall review the demands, instruction, ruling or decision objected to and shall promptly advise the Contractor, in writing, of his final decision, which shall be binding on all parties, unless, within then (10) days thereafter, the Contractor shall file with the City Council a formal protest against said decision of the Engineer. The City Council shall consider and render a final decision on any such protest within thirty (30) days of receipt of same.

2-10.1 Disputed Work – Unilateral Change Order. [Add new section]:

If at any time the Agency and the Contractor are unable to reach an agreement on the cost of disputed work, the Agency may direct the Contractor to proceed with the work. The Agency shall have the option, at its own discretion, to pay for said disputed work through a unilateral change order executed by the Agency after conducting its own analysis of the reasonable costs thereof. Although not to be construed as proceeding under Extra Work provisions in Section 7-4, the Contractor shall keep and furnish records of disputed work in accordance with Section 7-4.

2-11 NOTICE OF SURETIES. [Add new section as follows]:

The Contractor shall notify his sureties and the carriers of the insurance furnished and maintained by him of any changes affecting the general scope of work or change in the contract price, or time, or a combination thereof, and the amount of the applicable bonds and the coverage of the insurance shall be adjusted accordingly. The Contractor shall furnish proof of such adjustments to the Agency.

SECTION 3 – CONTROL OF THE WORK.

3-10 SURVEYING.

3-10.1 General [Replace with the following]:

The Contractor shall, as may be required, retain the services of a State of California licensed surveyor and shall provide the initial construction staking for the construction to include one set of rough grade stakes, one set of finish grade stakes, and as otherwise required by the Inspector.

The Contractor shall be responsible for the finished work's conforming to the lines, grades and benchmarks given by the Engineer. The contractor shall establish supplementary benchmarks, elevations, lines, and grades and any other necessary controls which are not established by the Engineer and which are necessary to complete the work. The cost of surveying and/or construction staking and for replacement of stakes lost for any reason will be the responsibility of the Contractor. Compensation for above work by the Contractor shall be included within the various items of work and no additional compensation will be allowed.

3-12 WORK SITE MAINTENANCE.

3-12.1 General. [Add the following paragraph]:

The Contractor shall keep adjacent properties clean and free of rubbish and debris on a daily basis as necessary and as directed by the Engineer. At the end of each work day, the site shall be fully cleaned.

The Contractor shall solely contract with CR&R for all refuse Services. The Contractor shall place all recyclables into a recycled materials container or shipped to a CR&R approved recycling plant. All green waste shall be sent to a CR&R approved compost facility. Contractor shall maintain records of recycled material volumes and weights for submission to Agency prior to final payment. Contractor shall, on a daily basis, collect and dispose of litter throughout the entire project limits. Payment for this work shall be included in various items of work and no additional compensation shall be allowed.

3-12.4.2 Storage in Public Streets. [Replace the first paragraph]:

Contractor is prohibited from storing equipment or materials within a public way, right-of-way, or street. The Contractor may, at his own expense, maintain and operate a work and storage area outside of the public right-of-way. In such case, the Contractor shall submit to Agency written authorization from the owners of the subject property prior to occupation. Occupation of site without written authorization shall be grounds for immediate suspension of work without compensation. Location of site to be approved by Agency. Condition and operation of yard shall conform to these specifications. The Contractor shall assume full responsibility for all damage to the site resulting from his operations and shall repair and/or replace same, at his own expense, to the satisfaction of the owner of the subject property. The Contractor shall vacate site and return it to pre-project condition within five (5) working days following application for Notice of Completion. The Contractor shall obtain a written release from the property owner accepting the condition of the vacated site and releasing the Contractor from any further clean-up or restoration work and shall submit a copy of such release to Agency. The Notice of Completion will not be issued until said release is submitted.

SECTION 4 - CONTROL OF MATERIALS

4-3 INSPECTION.

4-3.1 General. [Add the following]:

The Agency will pay for inspection and materials testing. The Contractor shall pay for retests and re-inspections due to failure to pass tests or meet specifications.

4-3.3 Inspection of Items Not Locally Produced. [Add the following last sentence]:

Notwithstanding the above, all nursery materials shall be locally acquired (within 50 miles of Agency) and shall be tagged and made available for Agency inspection within 60 days of issuance of the Notice to Proceed.

SECTION 5 – LEGAL RELATIONS AND RESPONSIBILTIES

5-3 LABOR.

5-3.1 General. [Add the following]:

The Contractor, and all subcontractors, suppliers and vendors, shall comply with all Agency, State, and Federal orders regarding affirmative action to ensure equal employment opportunities and fair employment practices. Failure to file any report due under said orders will result in suspension of periodic progress payments.

The Contractor shall ensure unlimited access to the job site for all equal employment opportunity compliance officers.

5-3.3 PAYROLL RECORDS. [Replace with the following]:

Pursuant to Section 1776 of the Labor Code, Contractor shall prepare certified payroll records meeting the requirements of State and Federal Laws and Regulations and shall submit them to the Agency by the tenth day of each month for all contractor and subcontractor work. Progress payments will be withheld pending receipt of outstanding payroll records.

5-4 INSURANCE. [Replace entire section]:

5-4.1 General.

Contractor shall obtain, maintain, and keep in full force and effect during the term of this contract, at its sole cost and expense, and in a form and content satisfactory to City, all insurance required under this section. Contractor shall not commence any work or services under this contract unless and until it has provided evidence satisfactory to City that it has secured all insurance required under this section. If Contractor's existing insurance policies do not meet the insurance requirements set forth herein, Contractor agrees to amend, supplement or endorse the policies to do so.

5-4.2 Types of Insurance Required.

As a condition precedent to the effectiveness of this contract, and without limiting the indemnity provisions set forth in this contract, Contractor shall obtain and maintain in full force and effect during the term of this contract, including any extension thereof, the following policies of insurance:

Commercial General Liability Insurance. Contractor shall obtain and maintain, in full force and effect throughout the term of this contract, a policy of Commercial General Liability Insurance (Insurance Services Office form CG 00 01) written on an occurrence basis with limits of at least two million dollars (\$2,000,000.00) per occurrence, four million dollars (\$4,000,000.00) in the general aggregate, and four million dollars (\$4,000,000.00) for completed operations aggregate. Defense costs shall be paid in addition to the limits. The policy shall contain no endorsements or provisions limiting coverage for (1) contractual liability; (2) cross liability exclusion for claims or suits by one insured against another; or (3) contain any other exclusion contrary to the contract.

Automobile Liability Insurance. Contractor shall obtain and maintain, in full force and effect throughout the term of this contract, a policy of Automobile Liability Insurance (Insurance Services Office form CA 001) written on a per occurrence basis with limits of at least one million dollars (\$1,000,000.00) combined limit for each occurrence covering bodily injury and property

damage. The policy shall specifically include coverage for owned, non-owned, leased, and hired automobiles.

Workers' Compensation Insurance. Contractor shall obtain and maintain, in full force and effect throughout the term of this contract, a policy of Workers' Compensation Insurance in at least the minimum statutory amounts, and in compliance with all other statutory requirements, as required by the State of California. Contractor agrees to waive and obtain endorsements from its workers' compensation insurer waiving all subrogation rights under its workers' compensation insurance policy against the City, its officials, officers, employees, agents and volunteers, and to require each of its subcontractors, if any, to do likewise under their workers' compensation insurance policies. Contractor shall obtain and maintain, in full force and effect throughout the term of this contract, a policy of Employer's Liability Insurance written on a per occurrence basis with limits of at least one million dollars (\$1,000,000.00) per accident for bodily injury or disease.

5-4.3 Acceptability of Insurers.

Insurance required by this section shall be issued by a licensed company authorized to transact business in the state by the Department of Insurance for the State of California with a current rating of A:VII or better (if an admitted carrier), or a current rating of A:X or better (if offered by a non-admitted insurer listed on the State of California List of Approved Surplus Line Insurers (LASLI), by the latest edition of A.M. Best's Key Rating Guide, except that the City will accept workers' compensation insurance from the State Compensation Fund. In the event the City determines that the work or services to be performed under this contract creates an increased or decreased risk of loss to the City, the Contractor agrees that the minimum limits of the insurance policies may be changed accordingly upon receipt of written notice from the City. Contractor shall immediately substitute any insurer whose A.M. Best rating drops below the levels specified herein.

5-4.4 Insurance Endorsements.

Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for written approval. Required insurance policies shall contain the following provisions, or Contractor shall provide endorsements on forms approved by the City to add the following provisions to the insurance policies:

- A. The policy or policies of insurance required by this section for Commercial General Liability and Automobile Liability Insurance shall be endorsed to provide the following:

Additional Insured: The City, its officials, officers, employees, agents and volunteers, shall be additional insureds with regard to liability and defense of suits or claims arising out of the performance of the contract; and

Additional Insured Endorsements: Additional insured endorsements shall not (1) be restricted to “ongoing operations”, (2) exclude “contractual liability”, (3) restrict coverage to “sole” liability of Contractor, or (4) contain any other exclusions contrary to the contract; and, the coverage shall contain no special limitations on the scope of protection afforded to additional insureds.

Notice: The policy or policies of insurance required by this section for Commercial General Liability and Automobile Liability Insurance shall be endorsed to state that coverage shall not be suspended, voided, cancelled, or modified, or reduced in coverage or in limits, except after thirty (30) days prior written notice by First Class U.S. Mail, postage-prepaid, has been provided to the City. Notwithstanding the foregoing, if coverage is to be suspended, voided, or cancelled because of Contractor’s failure to pay the insurance premium, the notice provided to City shall be by ten (10) days prior written notice.

- B. For all policies of Commercial General Liability Insurance, Contractor shall provide endorsements for completed operations to effectuate this requirement.

5-4.5 Deductibles and Self-Insured Retentions.

Any deductible or self-insured retention must be approved in writing by the City in advance and shall protect the City, its officials, officers, employees, agents and volunteers, in the same manner and to the same extent as they would have been protected had the policy or policies not contained a deductible or self-insured retention.

5-4.6 Primary and Non-Contributing Insurance.

All policies of Commercial General Liability Insurance, Automobile Liability Insurance and Course of Construction/Builders Risk Insurance shall be primary and any other insurance, deductible, or self-insurance maintained by the City, its officials, officers, employees, agents or volunteers, shall not contribute with this primary insurance. Policies shall contain or be endorsed to contain such provisions.

5-4.7 Waiver of Subrogation.

All policies of Commercial General Liability, Automobile Liability Insurance and Course of Construction/Builders Risk Insurance shall contain or be endorsed to waive subrogation against the City, its officials, officers, employees, agents and volunteers, or shall specifically allow Contractor or others providing insurance evidence in compliance with the requirements set forth in this section to waive their right to recovery prior to a loss. Contractor hereby agrees to waive its own right of recovery against the City, its officials, officers, employees, agents and volunteers, and Contractor hereby agrees to require similar written express waivers and insurance clauses from each of its subcontractors.

5-4.8 Evidence of Coverage.

Concurrently with the execution of the contract, Contractor shall deliver certificates of insurance together with original endorsements affecting each of the insurance policies required by this section. Required insurance policies shall not be in compliance if they include any limiting provision or endorsement that has not been submitted to the City for written approval. The certificates of insurance and original endorsements for each insurance policy shall be signed by a person authorized by that insurer to bind coverage on its behalf. At least fifteen (15) days prior to the expiration of any such policy, evidence of insurance showing that such insurance coverage has been renewed or extended shall be filed with the City. If such coverage is cancelled or reduced and not replaced immediately so as to avoid a lapse in the required coverage, Contractor shall, within ten (10) days after receipt of written notice of such cancellation or reduction of coverage, file with the City evidence of insurance showing that the required insurance has been reinstated or has been provided through another insurance company or companies. Contractor shall promptly furnish, at City's request, copies of actual policies including all declaration pages, endorsements, exclusions and any other policy documents City requires to verify coverage.

5-4.9 Requirements Not Limiting.

Requirement of specific coverage or minimum limits contained in this section are not intended as a limitation on coverage, limits, or other requirements, or a waiver of any coverage normally provided by any insurance. Nothing in this section shall be construed as limiting in any way the indemnification provision contained in this contract, or the extent to which Contractor may be held responsible for payments of damages to persons or property.

5-4.10 Enforcement of Agreement (Non-Estoppel).

Contractor acknowledges and agrees that actual or alleged failure on the part of the City to inform Contractor of any non-compliance with any of the insurance requirements set forth in this section imposes no additional obligation on the City nor does it waive any rights hereunder.

5-4.11 Insurance for Subcontractors.

Contractor shall either: (1) include all subcontractors engaged in any work or services for Contractor relating to this contract as additional named insureds under the Contractor's insurance policies; or (2) Contractor shall be responsible for causing its subcontractors to procure and maintain the appropriate insurance in compliance with the terms of the insurance requirements set forth in this section, including adding the City, its officials, officers, employees, agents and volunteers, as additional insureds to their respective policies. All policies of Commercial General

Liability Insurance provided by Contractor's subcontractors performing any work or services related to this contract shall be endorsed to name the City, its officials, officers, employees, agents and volunteers, as additional insureds. Contractor shall not allow any subcontractor to commence any work or services relating to this contract unless and until it has provided evidence satisfactory to City that the subcontractor has secured all insurance required under this section.

5-4.12 Other Insurance Requirements.

The following terms and conditions shall apply to the insurance policies required of Contractor pursuant to this contract:

- A. Contractor shall provide immediate written notice to City if (1) any of the insurance policies required herein are terminated, cancelled or suspended, (2) the limits of any of the insurance coverages required herein are reduced, or (3) the deductible or self-insured retention is increased.
- B. All insurance coverage and limits provided by Contractor and available or applicable to this contract are intended to apply to each insured, including additional insureds, against whom a claim is made or suit is brought to the full extent of the policies. Nothing contained in this contract or any other agreement relating to the City or its operations shall limit the application of such insurance coverage.
- C. None of the insurance coverages required herein will be in compliance with the requirements of this section if they include any limiting endorsement which substantially impairs the coverages set forth herein (e.g., elimination of contractual liability or reduction of discovery period), unless the endorsement has first been submitted to the City and approved in writing.
- D. Certificates of insurance will not be accepted in lieu of required endorsements, and submittal of certificates without required endorsements may delay commencement of the project. It is Contractor's obligation to ensure timely compliance with all insurance submittal requirements as provided herein.
- E. Contractor agrees to ensure that subcontractors, if any, and any other parties involved with the project who are brought onto or involved in the project by Contractor, provide the same minimum insurance coverage required of Contractor. Contractor agrees to monitor and review all such coverage and assumes all responsibility for ensuring that such coverage is provided in conformity with the requirements of this section. Contractor agrees that upon request, all agreements with subcontractors and others engaged in the project will be submitted to the City for review.

- F. Contractor agrees to provide immediate written notice to City of any claim, demand or loss against Contractor arising out of the Work or Services performed under this contract and for any other claim, demand or loss which may reduce the insurance available to pay claims, demands or losses arising out of this contract.

5-4.13 Contractor's Liability.

The **City of Laguna Hills**, its City Council, Engineer, or Consultant shall not be answerable or accountable in any manner, for any loss or damage that may happen to the work or any part thereof; or for any of the materials or other things used or employed in performing the work; or for injury to any person or persons, either workman or the public; or for damage to adjoining property from any cause which might have been prevented by the Contractor, or his workman, or any one employed by him; against all of which injuries or damages to persons and property the Contractor having control over such work must properly guard. The Contractor shall be responsible for any damages to any person or property resulting from defects or obstructions at any time before its completion and final acceptance, and shall indemnify and save harmless the **City of Laguna Hills**, its City Council, Engineer, and Consultant from all suits or actions of every name and description, brought for, or on account of, any injuries or damages received or sustained by any person or persons, by the Contractor, his servants or agents, in the construction of the work or by or in consequence of any negligence in guarding the same, in improper materials used in its construction, or by or on account of any act or omission of the Contractor or his agents, and so much of the money due the Contractor under and by virtue of the Contract as shall be considered necessary by the City may be retained by the City until disposition has been made of such suits or claims for damages aforesaid.

If, in the opinion of the Engineer, the precautions taken by the Contractor are not safe or adequate at any time during the life of the Contract, he may order the Contractor to take further precautions, and if the Contractor shall fail to do so, the Engineer may order the work done by others and charge the Contractor the cost thereof, such cost to be deducted from any moneys due or becoming due the Contractor. Failure of the Engineer to order such additional precautions, however; shall not relieve the Contractor from his full responsibility for public safety.

From time to time, during the period of this contract, the City may be served with claims, as a result of conduct by Contractor, which claims are for property damage or other damages in amounts of \$2,500.00 or less. These claims may be resolved informally by City, within City's discretion, and charged back against Contractor by funds held in retention to meet these claims. The City will appoint a Claims Administrator who will act on behalf of the City and Contractor. The Administrator will recommend to City the resolution of any claim. The Claims Administrator's recommendation for payment shall be paid by Contractor within 30 days of the date of recommendation. If Contractor fails to make payment to claimant within 30 days of the Administrator's decision, the City may make payment to the claimant and withhold, as retention, sufficient funds to reimburse City upon completion of the contract. Prior to making his recommendation, the Administrator will obtain from Contractor all evidence relevant to the claim. Contractor will have ten days from the

date requested by the Administrator to submit any evidence in the defense of the claim. Failure to do so waives any objection by Contractor to payment of the claim if, after an independent investigation, it is the opinion of the administrator to make payment of that claim.

5-7 SAFETY

5-7.2 Safety Orders.

5-7.2.1 General. [Add the following paragraphs]:

The Contractor shall comply with the provisions of any Agency ordinances or regulations regarding requirements for the protection of excavations and the nature of such protection.

In connection with the performance of this contract, the City shall have the authority to enter the worksite at any time for the purpose of identifying the existence of conditions, either actual or threatened that may present a danger or hazard to any and all employees. The Contractor agrees that the City, in its sole authority and discretion, may order the immediate abatement of any and all conditions that may present an actual or threatened danger or hazard to any and all employees at the worksite.

The Contractor acknowledges the provisions of Section 6400 of the Labor Code, which requires that employees shall furnish employment and a place of employment that is safe and healthful for all employees working therein. In the event the City identifies the existence of any condition that presents an actual or threatened danger or hazard to any or all employees at the work site the City is hereby authorized to order the immediate abatement of that actual or threatened condition pursuant to this section. The City may also, at its sole authority and discretion, issue an immediate stop work order to the Contractor to ensure that no employee working at the worksite is exposed to a dangerous or hazardous condition. Any stop work order issued by the City to the Contractor in accordance with the provisions of this section shall not give rise to any claim or cause of action for delay damages by the Contractor or the Contractor's agents or subcontractors against the City.

In accordance with Section 6500 of the Labor Code, the Contractor is required to obtain a permit from the Division of Industrial Safety for any trench or excavation of five feet or more in depth and into which a person is required to descent.

Prior to beginning of excavations requiring shoring, the Contractor shall designate in writing to the Engineer someone whose responsibility it is to supervise the project safety measures and someone whose responsibility it is to supervise the installation and removal of sheeting, shoring and bracing. In addition to shoring the excavations in accordance with the minimum requirements of Industrial Safety Orders, it shall be the Contractor's responsibility to provide any and all additional shoring required to support the sides of the excavation against the effects of load which may exceed those desired by using the criteria set forth in the Industrial Safety Orders. The Contractor shall be solely responsible for construction safety and for any damages

which may result from his failure to provide adequate shoring of the excavation under any and all of the conditions of loading which may exist or which may arise during construction of the project.

In accordance with Section 7104 of the Public Contract Code, any public works contract which involves excavations that extend deeper than four feet below the surface shall provide as follows:

1. That the Contractor shall promptly, and before the following conditions are disturbed, notify the public entity, in writing, of any:
 - a) Material that the Contractor believes may be material that is hazardous waste, as defined in Section 25117 of the Health and Safety Code that is required to be removed to as Class I, Class II or Class III disposal site in accordance with provisions of existing law.
 - b) Subsurface or latent physical conditions at the site differing from those indicated.
 - c) Unknown physical conditions at the site of any unusual nature, different materially from those ordinarily encountered and generally as inherent in work of the character provided for in the contract.
2. That the public entity shall promptly investigate the conditions, and if it finds that the conditions do materially so differ, or do involve hazardous waste, and cause a decrease or increase in the Contractor's cost of, or the time required for, performance of any part of the work shall issue a change order under the procedures described in the contract.
3. That, in the event that a dispute arises between the public entity and the Contractor whether the conditions materially differ, or involve hazardous waste, or cause a decrease or increase in the Contractor's cost of, or time required for, performance of any part of the work, the Contractor shall not be excused from any scheduled completion date provided for by the contract, but shall proceed with all work to be performed under the contract. The Contractor shall retain any and all rights provided either by contract or by law which pertain to the resolution of disputes and protests between the contracting parties.

5-7.9 Traffic and Access. [Add the following new section]:

When entering or leaving roadways carrying public traffic, the Contractor's equipment, whether empty or loaded, shall in all cases yield to public traffic.

The Contractor shall notify the City Engineer, Police Agency, Fire Agency, Post Office and all affected property owners, in writing of the proposed construction schedule a minimum of 72 hours, in advance of any limitation or closure of access to their property. Form of said notice shall be as approved by the Engineer and shall contain the date and time of the closure. In the event of delay, whether beyond the

control of the Contractor or not, the Contractor shall notify the City Engineer and all affected property owners as to the extent of the delay and his revised schedule. In the event of delay over 72 hours, the Contractor shall re-notify all parties as described above. Payment for notification and coordination as per Section 7-10 as modified herein shall be included in the compensation paid for the various items of work and no additional compensation will be allowed. The "Notices" will be furnished by the Contractor.

5-7.10 Haul Routes and Street Closures, Detours, Barricades. [Add the following new section]:

It shall be the Contractor's responsibility to furnish a detailed traffic control and detour plan with detour signing, traffic control, and barricade plan for Agency approval in accordance with Part 6, Temporary Traffic Control. Detours shall be in accordance with Caltrans standards. The Contractor shall submit detailed drawings of any proposed detour(s) to the Engineer for approval prior to the commencement of work. All traffic control devices, flaggers, labor and materials shall be included. The Contractor shall provide, at his expense, advanced warning signs advising the public of the impending major construction project and his proposed schedule. Said signs shall be posted at all major approaches to the construction zones a minimum of two weeks prior to the start of construction.

Payment for the above shall be deemed as included in the lump sum price bid for clearing and grubbing and no additional compensation shall be allowed.

The Contractor shall be responsible for providing temporary access to all driveways at the end of each work day. Access to all bus stops for pedestrians shall be maintained at all times.

The Contractor shall provide and maintain all other signs, barricades, pedestals, flashers, delineators and other necessary facilities for the protection of the public within the limits of the construction area. The Contractor shall also post proper signs to notify the public regarding detours and the condition of the roadway, all in accordance with the provisions of the Vehicle Code and the current State of California Department of Transportation Manual of Warning Signs, Lights and Devices for Use in Performance of Work Upon Highways.

Portable delineators shall be placed as necessary for proper delineation of the travel way. The spacing between delineators shall not exceed 50 feet on tangents or 25 feet on curves except when used for lane closure.

When closure of half the roadway requires one way traffic, the Contractor shall provide two (2) flaggers, equipped with working two (2) way radios, one (1) at each of the work area, with signing and delineation as per W.A.T.C.H. manual.

When used for lane closures, the fluorescent traffic cones or portable delineators shall be placed at intervals not to exceed the following:

Tapers	25 Feet
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Edge of Closed Lane	
Tangents	100 Feet
Curves	50 Feet

If traffic cones or portable delineators are damaged, displaced or not in an upright position, from any cause, said cones or portable delineators shall immediately be replaced or restored to their original location, in an upright position, by the Contractor.

The Contractor shall furnish competent flagmen as are necessary to give adequate warning to traffic or to the public of any dangerous conditions to be encountered. Flagmen, while on duty and assigned to give warnings to the public that the highway is under construction and of any dangerous conditions to be encountered as a result thereof, shall perform their duties and shall be provided with the necessary equipment in accordance with the current "Instructions to Flagmen," of the Department of Transportation. The equipment shall be furnished and kept clean and in good repair by the Contractor, at his expense.

Should the Contractor appear to be neglectful or negligent in furnishing warning and protective measures as provided, the Engineer may direct attention to the existence of a hazard and the necessary warning and protective measures shall be furnished and installed by the Contractor at his expense. Should the Engineer point out the inadequacy of warning and protective measures, such as action on the part of the Engineer shall not relieve the Contractor from responsibility for public safety or abrogate his obligation to furnish and pay for these devices.

The Contractor shall also be required to post "Temporary No Parking - Tow Away" signs along the street to be resurfaced during each working day, seventy-two (72) hours prior to resurfacing (signs 72 hours prior to start of work.) The notification to property owners mentioned in Section 7-10.1 and "Temporary No Parking" signs will be furnished by the Contractor.

Contractor shall notify the following entities at least forty-eight (48) hours in advance of any street closure or restriction to access.

1. Orange County Sheriff's Department (949) 707-2645
2. Schools and School Bus Organizations – SVUSD (949) 586-1234
3. CR&R Waste Disposal (949) 728-0446
4. OCTA Stops and Zones (714) 560-5912
5. City Engineer
6. Sunset Property Services Street Sweeping (949) 551-5151
7. OCFA Fire Station #22 (949) 837-5471
8. Laguna Hills Post Office (949) 837-1010

All existing stop signs, street name signs and regulatory signs shall be maintained in visible locations during construction and permanently relocated or removed as directed by the plans and the Engineer. Signs which need not be maintained during construction or permanently relocated, shall be salvaged to the Agency. Traffic Lane

lines shall be restored with reflective tabs at the end of each day and repainted within 7 calendar days.

Full Compensation for conforming to this article shall be considered as included in the lump sum per bid for Clearing and Grubbing and no additional compensation will be allowed therefore.

SECTION 6 – PROSECUTION AND PROGRESS OF THE WORK

6-1 CONSTRUCTION SCHEDULE AND COMMENCEMENT OF THE WORK.

6-1.1 Construction Schedule. [Replace with the following]:

The contractor shall place orders for all the materials that require long lead time for delivery, such as streetlight poles, controllers, large signal poles and similar materials, at the time of award of contract.

The Contractor's proposed Construction Schedule shall be submitted to the Engineer within ten (10) working days after the date of the Notice of Award of Contract. The schedule shall be supported by written statements from each supplier of materials or equipment indicating that all orders have been placed and acknowledged, and setting forth the dates that each item will be delivered. The schedule shall establish the order of work which minimized disruption of existing travel lanes.

Prior to issuing the Notice to Proceed, the Engineer will schedule a preconstruction meeting with the respective Contractor to review the proposed Construction Schedule and delivery dates, arrange the utility coordination, discuss construction methods, and clarify inspection procedures.

The Contractor shall submit periodic Progress Reports to the Engineer by the tenth day of each month. The report shall include an updated Construction Schedule. Any deviations from the original schedule shall be explained. Progress payments will be withheld pending receipt of any outstanding reports.

6-3 TIME OF COMPLETION.

6-3.1 General. [Replace with the following]:

The time for completion shall be set forth in the General Specifications. (GS-1)

6-3.3 Working Days. [Add the following new section]:

The contractor's activities shall be confined to the hours between 8:00 A.M. to 5:00 P.M., Monday through Friday, excluding holidays. No early start shall be allowed on Residential (Local) streets. Work shall be prohibited any time on Saturday, Sunday or Federal Holidays. Work on Arterial Highways shall not begin before 9:00 a.m. Deviation from these hours will not be permitted without the prior consent of the Engineer, except in emergencies involving immediate hazard to persons or property.

In the event of either a requested or emergency deviation, inspection service fees will be charged against the Contractor. The service fees will be calculated at overtime rates including benefits, overhead, and travel time. The services fees will be deducted from any amounts due to the Contractor.

Construction activities during Agency Special events may be restricted by Agency to exclude all or part of the work on primary arterial or access roads to Special Events as determined by Engineer. The Contractor shall be responsible to ascertain the exact times of any such events within his proposed construction schedule which may restrict his operation and shall adjust his schedule accordingly. The construction restrictions shall only be for the actual days the events occur. All costs for maintaining traffic control, protection of work site and remobilization shall be deemed as included in the lump sum contract for clearing and grubbing shown on the bid sheet and no additional compensation will be allowed.

6-4 DELAYS AND EXTENSIONS OF TIME

6-4.5 EXTENDED FIELD OFFICE OVERHEAD COSTS. [Add new section]:

Within fourteen (14) calendar days after receipt of the Notice to Proceed, the Contractor shall submit a written statement to the Agency detailing its field office overhead costs which are time related. The Agency will review this cost submittal and reach a written agreement with the Contractor on a daily field office overhead cost rate which shall be memorialized in an agreed upon no cost Change Order. The daily rate agreed to in this Change Order will be applicable throughout the duration of the Contract. No field office costs will be paid until such agreement is reached between the Agency and the Contractor and the Change Order concerning this daily rate is executed by both parties. Progress payments will be withheld pending receipt of the above-referenced cost submittal and executed Change Order.

The individual cost components of the daily field office overhead rate shall represent costs which increase as a direct result of any time extension caused solely and exclusively by an act of the Agency. This listing may include such cost items as on-site project management, supervision, engineering and clerical salaries; on-site office utilities and rent; on-site company vehicles and their operating expenses; and site maintenance and security expenses. Field office overhead costs which are unaffected by increased time shall not be allowable costs in calculating the daily field office overhead rate. These non-time related costs include, but are not limited to, acquisition and installation of stationary equipment; temporary construction facilities; utilities and office furnishings (unless such items are rented or leased); the preparation of the site including clearing, grubbing, grading and fencing; mobilization and demobilization costs; and the costs of permits, bonds and insurance coverage for the project.

The individual wage cost components used to calculate the daily field office overhead rate shall be supported by actual employee payroll records, not salary ranges or estimated. Hourly rates for management, supervisory, engineering and

clerical employees shall be based upon 2080 hours per year and shall not include allowances for holidays, vacations or sick time.

When applicable, the daily field office overhead rate shall be multiplied by the number of days the Contract is delayed or extended by Change Order and shall be added to the agreed upon Change Order cost. The days of delay shall be those caused solely by action of the Agency and documented by a time impact analysis prepared and submitted by the Contractor. In the event a deductive Change Order is issued which reduces time under the contract, the daily field office overhead rate shall be used to calculate the deductive amount. No allowance for overhead costs and no profit allowance shall be added to the extended field office overhead cost.

6-9 LIQUIDATED DAMAGES. [Replace with the following]:

It is agreed by the parties to the Contract that time is of the essence and that in the case that all the work is not complete before or upon the expiration of the time limit set forth, damage will be sustained by the City. For each consecutive calendar day in excess of the time specified for the completion of the work, the Contractor shall pay to the Agency \$2,500.00. The Contractor shall also pay to the Agency \$500 for each occurrence of work in a through or turning lane in violation of these specifications as solely determined by Agency. In addition, the City shall have the right to charge to the Contractor and to deduct from payments for the work the actual cost to the City of engineering, inspection, superintendence, and other overhead expenses, which are directly chargeable to the Contract and which accrue during the period of such delay. The expenses and damages described above shall be deducted from any money due the Contractor under this contract. The Contractor and his sureties shall be liable for any excess cost.

6-10 ACCELERATION. [Add new section]:

a) Agency reserves the right to accelerate the work of the contract at any time during its performance. In the event that the Agency directs acceleration, such directive will be given to the Contractor in writing. The Contractor shall keep cost and other Project records related to the acceleration directive separately from normal Project cost records and shall provide a written record of acceleration cost to the Agency on a daily basis.

b) In the event that the Contractor believes that some action or inaction on the part of the Agency constitutes an acceleration directive, the Contractor shall immediately notify the Agency in writing that the Contractor considers the actions or inactions an acceleration directive. This written notification shall detail the circumstances of the acceleration directive. The Contractor shall not accelerate their work efforts until the Agency responds to the written notification. If acceleration is then directed or required by the Agency, all cost records referred to in section (a) shall be maintained by the Contractor and provided to the Agency on a daily basis.

c) In order to recover additional costs due to acceleration, the Contractor must document that additional expenses were incurred and paid by the Contractor. Labor costs recoverable will only be overtime or shift premium costs of the cost of

additional laborers brought to the site to accomplish the accelerated work effort. Equipment costs recoverable will only be the cost of added equipment mobilized to the site to accomplish the accelerated work effort.

SECTION 7 - MEASUREMENT AND PAYMENT

7-3 PAYMENT.

7-3.2 Partial and Final Payment. [Add the following]:

The closure date for periodic progress payments will be five (5) working days prior to the first Monday of each month. The final progress payment will not be released until the Contractor returns the control set of Plans and Specifications showing the as-constructed conditions.

Partial payments, except the final payment, shall not be made for periods of less than one month. To claim a partial payment on the amount due or the final payment itself, the Contractor shall obtain approval of measurement of quantity of work completed from the City Inspector and shall prepare an invoice showing bid items, unit bid price, quantity completed, quantity previously paid, total quantity as of the date of invoice, amount claimed on the invoice, previous payment, amount to be retained, and the contract amount. The Contractor may substitute securities in lieu of retention as permitted by the provisions of Standard Specifications. The amount to be retained by the City shall be 5% of the work completed as of the date of the payment request. The invoice shall be submitted to the Engineer two weeks prior to the second or fourth Tuesday of the month, the days on which payments are placed in the warrant lists for Council approval. Such payments are made by the Finance Department during the week in which they are approved by the City Council. Payments will only be mailed and cannot be picked up.

After completion of the contract, the City Council shall, upon recommendation of the Engineer, accept the work as completed and authorize the final payment.

The final payment shall be the entire sum found to be due the Contractor after deducting therefrom all previous payments and all amounts to be kept and all amounts to be retained under the provisions of the contract. All prior partial estimates and payments shall be subject to correction in the final estimate and payment.

The final payment of the retention amount to the Contractor shall be made thirty-five (35) days from the date of the recording of the Notice of Completion of the work after it is accepted by the City and shall be made on a duly certified voucher therefore, except as State Law may permit Contractor to receive said final payment prior to said thirty-five (35) day period after acceptance of the work by the City.

It is mutually agreed among the parties to the contract that no certificate given or payment made under the contract, except the final certificate of final payment, shall be conclusive evidence of full or substantial performance of this contract; no

payment shall be construed to be an acceptance of any defective work or improper material.

Unless a written notice of protest disagreeing with the approved final payment and a notice of intention of additional claims is filed with the Engineer prior to the acceptance of the final payment, the acceptance of the final payment by the Contractor shall release the City, the City Council, and the Engineer from any and all claims or liabilities on account of work performed by the Contractor under the contract or any alternations thereof.

SUBSTITUTION OF SECURITIES

In conformance with the State of California Public Contract Code section 22300, the Contractor may substitute securities for any monies withheld by the AGENCY to ensure performance under the contract.

At the request and expense of the Contractor, the Contractor has the option to deposit securities, which have been approved by the Agency, and deposited with a State or Federally chartered bank as the escrow agent. Said securities will be used as a substitute for retention earnings required to be withheld by the Agency, pursuant to the construction contract. The Contractor shall be the beneficial owner of any securities substituted for moneys withheld and shall receive any interest thereon. Said securities shall have no obligation to any other construction contract for substitution of securities in lieu of retention. When the Contractor deposits the Agency approved securities with the escrow agent, the escrow agent shall notify the Agency within 10 calendar days of the deposit. Said securities shall be evaluated quarterly by the escrow agent to verify the current market value. If the current market value of said securities falls below the required amount, the escrow agent shall notify the Contractor and require additional securities and/or cash to be submitted for Agency approval, and he held in escrow account to meet the Contractor's obligations. Said securities shall be held by the escrow agent until such time as the escrow agent receives written notification from the Agency that the Contractor has satisfactorily completed his contract obligations.

Alternatively, the Contractor may request and the Agency shall make payment of retentions earned directly to the escrow agent at the expense of the contractor. At the expense of the Contractor, the Contractor may direct the investment of the payments into securities and the Contractor shall receive the interest earned on the investments upon the same terms provided for securities deposited by the Contractor.

The type of securities deposited and the method of release shall be approved by the City Attorney's office.

The full five-percent (5%) retention will be deducted from all payments. The final retention will be authorized for payment thirty-five (35) days after the date of recordation of the Notice of Completion.

7-3.3 Delivered Materials. [Replace with the following]:

Materials and equipment delivered but not incorporated into the work will not be included in the estimate for progress payment, subject to the discretion of the City Engineer.

7-3.4 Mobilization. [Replace with the following]:

Mobilization shall consist of preparatory work and operations, including but not limited to those necessary for the movement of personnel, equipment, supplies, and incidentals to the project site; for the establishment of all offices, buildings, and other facilities necessary for the work on this project; and for all other work and operations which must be performed or cost incurred prior to the beginning work on the various contract items on the project site. Mobilization is deemed to include all aspects of mobilization and de-mobilization work occurring during the life of the project for any reason. Mobilization is deemed to include all aspects of de-mobilization work occurring at any time.

The compensation paid for mobilization shall be included in the contract lump sum price for Clearing and Grubbing and shall be full compensation for all costs incurred by the Contractor for doing all the work involved in mobilization as specified herein. Payment for mobilization will be included with the first monthly progress payment and shall be considered full compensation for the cost of such mobilization and administered for the entire contract period.

7-3.5 Contract Unit Prices

7-3.5.1 General. [Replace with the following]:

If a change is ordered in an item of work covered by a Contract Unit Price, and such change does not involve substantial change in character of the work from that shown on the Plans or specified in the Specifications, then no adjustment in payment will be made regardless of the quantity of work performed.

If a change is ordered in an item of work covered by a Contract Unit Price, and such change does involve a substantial change in the character of the work from that shown on the Plans or specified in the Specifications, an adjustment in payment will be made per **7-3.7**.

7-3.5.2 [Delete entire section]

7-3.5.3 [Delete entire Section]

7-3.7 Agreed Prices [Replace with the following]:

Agreed Prices are prices for new or unforeseen work established by mutual agreement between the Contractor and the Agency. If mutual agreement cannot be reached, the Engineer may direct the Contractor to proceed on the basis of Extra Work in accordance with Section 7-4.

7-4 PAYMENT FOR EXTRA WORK.

7-4.2 Basis for Establishing Costs.

7-4.2.1 Labor [Amend as follows]:

Delete “Workers Compensation Insurance and Liability Insurance” from the “employer payments” in the first paragraph.

7-4.3 Markup.

7-4.3.1 Work by the Contractor. [Replace with the following]:

The following percentages shall be the maximum added to the Contractor’s costs and shall constitute the markup for all overhead, profits, Workers Compensation Insurance & Liability Insurance;

1) Labor	20
2) Materials	15
3) Equipment Rental	15
4) Other Items and Expenditures	15

To the sum of the Costs and markups provided for this subsection, one percent shall be added as compensation for bonding. In any event, notwithstanding the above markups, the total labor mark-up shall not exceed 33% of the base labor hourly pay rate. No additional compensation shall be allowed.

7-4.3.2 Work by a Subcontractor. [Replace with the following]:

When all or any part of the extra work is performed by a Subcontractor, the markup established in 7-4.3.1 shall be applied to the Subcontractor’s actual cost of work. A markup of ten percent (10%) on the first \$5,000 of the subcontracted portion of the extra work and a markup of five percent (5%) on work added in excess of \$5,000 of the subcontracted portion of the extra work may be added by the Contractor.

The markups mentioned hereinafter shall include, but are not limited to, all costs for all forms of insurance and the services of superintendents, project managers, timekeepers and other personnel not working directly on the change order and pickup or yard trucks used by the above personnel. These costs shall be reported as labor or equipment elsewhere except when actually performing work directly on the change order and then shall only be reported at the labor classification of the work performed.

SECTION 9 – UTILITIES [Add new section]:

9-1 LOCATION. [Add the following new paragraphs]:

The Contractor shall notify the utilities designated in the General Specifications at least 48 hours in advance of excavating around any of their structures.

The existence and locations of utilities shown on the drawings have been determined by a search of the available records as provided by the respective utility owner. The exact locations have not been determined by potholing unless so indicated on the drawings. The Contractor shall determine the exact location of all existing utilities prior to commencing work. He agrees to be fully responsible for any and all damages which may be caused by his failure to exactly locate and preserve any and all underground utilities, whether shown on the plans or not. In the event the Contractor encounters underground utilities not shown on the plans, he shall verify the exact location of the utility and immediately notify the Engineer, regardless of whether the unknown utility conflicts with the proposed construction or not. In the event of such a previously unknown conflict, the Contractor shall immediately notify the Engineer as to the extent, if any, of delays or additional costs resulting from said conflict. The Contractor shall perform work and provide necessary materials to disconnect or relocate existing utilities as indicated. Record on record drawings all existing utility termination points before disconnecting.

When uncharted or incorrectly charted underground piping or other utilities and services are encountered during site work operations, notify the applicable utility company immediately to obtain procedure directions. Cooperate with the applicable utility company in maintaining active services in operation.

PART 2 CONSTRUCTION MATERIALS

SECTION 201 – CONCRETE, MORTAR, AND RELATED MATERIALS

201-1.1.2 The class of concrete shall be 520-C-2500 with a maximum slump of four (4) inches for all sidewalks, driveways, curbs, gutter and alter intersection. Traffic signal footing shall be 560-C-3250. Submit mix design.

201-1.1.4.1 Test for Portland Cement Concrete [Add the following:]

1. All material shall comply with Orange County Standards (PF&RD), American Concrete Institute (Act 1) and Uniform Building Code.
2. Product Data:
 - a) Submit complete materials list of items proposed for the work. Identify materials source.
 - b) Submit admixture, curing compound, retarder, and accessory item product data.
 - c) Submit material certificates for aggregates, reinforcing, and joint fillers.
3. Submit concrete delivery tickets. Show the following:
 - a) Batch number
 - b) Mix by class or sack content with maximum size aggregate
 - c) Admixture
 - d) Air content
 - e) Slump
 - f) Time of loading
4. Submit concrete test reports.
5. Provide field quality control testing and inspection during concrete operations.
6. Contractor shall provide adequate notice, cooperate with, provide access to the work, obtain samples, and assist test agency and their representatives in execution of their function.

Testing:

- a) Provide slump test on first load of concrete delivered each day and whenever requested due to changes in consistency or appearance of concrete.
- b) Provide air indicator test and air meter tests for all air entrained concrete.
 - 1. Perform aid indicator test with a “Chase” AE 35 or equal air indicator, and air meter test in accordance with ASTM C231 or 173. Test first load of concrete delivered each day.
 - 2. Furnish copies of field records and test reports as listed for strength tests.
- c) Strength Testing:
 - 1. Provide 1 set of 3 test specimens for each 50 cubic yards placed in any one day. Secure samples in accordance with ADTM C31.
 - 2. Test 1 specimen at 7 days and 2 specimens at 29 days in accordance with ASTM C39.
 - 3. Furnish copies of field records and test reports as follows:
 - 2 copies to City's representative
 - 1 copy to Contractor
 - 1 copy to Ready Mix supplier
- d) Record the exact location of the concrete in the work represented by each set of cylinders and show on test reports.
- e) Provide an insulated moist box for protection of the test cylinders until shipped to the laboratory.

201-1.1 Materials

201-1.2.1.1 Portland Cement. [Replace the first sentence of the first paragraph]:

All cement to be used or finished shall be Type V.

201-2 STEEL REINFORCEMENT FOR CONCRETE.

201-2.2 Reinforcing Steel. [Add the following paragraph immediately after the first paragraph]:

All steel, except longitudinal steel shall be Grade 60 billet steel conforming to ASTM A 615.

201-4 CONCRETE CURING MATERIALS.

201-4.1 Contractor shall use Type II "Hunts" clear curing compound, unless otherwise specified by the Engineer.

SECTION 210 - PAINT AND PROTECTIVE COATINGS

210-1 PAINT.

210-1.6 [Add the following]

210-1.6.1 General.

The paint for traffic striping and marking shall be as follows:

- I. Rapid Dry Water-Borne Traffic Line Paint; White, Yellow and Black; California Material Specification 8010-42L-30.
- II. Rapid Dry Solvent-Borne Traffic Line Paint; White, Yellow and Black; California Material Specification 8010-12F0-05.
- III. Fast Dry Solvent-Borne Traffic Line Paint; White, Yellow and Black; California Material Specification 8010-51K-04.

The paint for concrete curbs and asphalt curb shall be the following, or an approved equal:

- I. J.E. Bauer Company #2133 A-9 Red.
- II. J.E. Bauer Company #2134 A-9 Green.
- III. J.E. Bauer Company #1864 A-9 Blue.
- IV. J.E. Bauer Company #1653 A-9 Yellow.

Thinner shall not be mixed with paint. Paint shall dry "tack-free" within thirty (30) minutes. Paint used for pavement legends shall be a compound of paint and glass beads.

210-1.6.2 Reflective Material. [Replace the first sentence of the second paragraph with the following]:

Glass beads for traffic paint shall conform to State Material Specification 751-80-34.

SECTION 211 - MATERIAL TESTS

211-1 COMPACTION TESTS.

211-1.1 Laboratory Maximum Density. [Replace with the following]:

Laboratory maximum density tests shall be performed in accordance with Test Method No. Calif. 216G, Part II. The correction for oversized material as stated in Test Method No. Calif. 216 shall be replaced with Note 2 of ASTM D 1557.

211-1.2 Field Density. [Add the following paragraph]:

Field density tests will be made by the Engineer during the course of construction at the expense of the Agency. If field density tests indicate that any portion of the compacted subgrade has density lower than that specified, the Contractor shall rework that portion until the specified density is obtained. Retest of areas which have failed compaction will be performed by the Engineer at the Contractor's expense. The Contractor's compensation may be reduced for asphalt concrete compaction not in conformance with these specifications in accordance with the CalTrans Compaction Reduction Procedure.

PART 3 - CONSTRUCTION METHODS

300-1 CLEARING AND GRUBBING.

300-1.3.2 Requirements. [Add the following]:

(d) Miscellaneous

In addition to the work outlined in subsection 300-1 of the Standard Specifications, the following items of work are included under Clearing and Grubbing unless otherwise covered by a specific bid item and shall apply to all work in the Base Bid and any Alternate Bids awarded:

- (1) Mobilization/demobilization including multiple occurrences of mobilization/demobilization.
- (2) Clearing, removal, and disposal of debris generated from the work.
- (3) Hand removal and disposal of all vegetation, trees, tree roots, trash and other objectionable material from the affected portion of the project and areas adjoining thereto.
- (4) Protection of existing native plant materials and fencing.
- (5) Sediment and erosion control and implementation of Water Quality Best Management Practices in compliance with NPDES and State Construction Permit.
- (6) Protection and maintenance of existing improvements, including but not limited to fencing, storm drains, parking lot, bike trails, sidewalks, utilities, and traffic controls within the construction zone, except those specifically directed by the Engineer to be removed or relocated.
- (7) Maintain dust control at all times by watering; including developing a water supply and furnishing and placing all water required for work done in the contract, including water used for extra work.
- (8) Daily cleanup work site including streets, sidewalks and driveways. Daily litter removal. Daily and as needed street sweeping. Recycling of waste materials and provisions for refuse containers from CR&R.
- (9) Providing traffic control and maintaining all signs, barricades and flashers necessary to maintain proper control and issuance of notices of access changes or parking space closures.
- (10) Notices to property owners, coordination with others and coordination with utility companies.
- (11) Surveying for establishment of line and grade (if any).

(12) Other items of work as directed in these Special Provisions.

300-1.4 Payment. [Add the following]:

Unless otherwise specified, compensation for clearing and grubbing shall be paid for at the **LUMP SUM** contract price and no additional compensation will be allowed. Payment shall include full compensation furnishing all labor, materials, tools, equipment and doing all work involved in clearing and grubbing as specified for the Base Bid and any Alternate Bids awarded. Payment shall be limited to not more than 50.0% per progress payment.

300-2 - UNCLASSIFIED EXCAVATION.

300-2.2 Unsuitable Material. [Add Subsection 300-1.3.2(a). "Bituminous Pavement" as Subsection 3090-2.2.3 and amend as follows]:

The areas and quantities shown on the plans are given only for the Contractor's aid in planning the work and/or preparing bids. The Engineer shall designate the limits to be removed and these designated areas shall be considered to take precedence over the areas shown on the plans. No guarantee is made that areas or quantities shown will equal the areas or quantities designated by the Engineer. Spilled or loose blocks of pavement and pavement cracks wider than 3/8 inch will be deemed justification for extending or adding to the removal and replacement of asphalt or Portland cement concrete pavement.

The areas indicated for removal and replacement shall be excavated to the full depth of the proposed pavement section. Where directed by the Engineer, additional aggregate base and/or native soil shall be removed to correct a subsurface problem.

300-2.6 Surplus Material. [Add the following]:

All surplus material shall be disposed of in a legal manner at the expense of the Contractor.

300-2.9 Payment.

Payment for all unclassified excavation or fill, saw cutting, hauling, and disposal shall be included in the lump sum unit price for Traffic Signal Construction and no additional compensation will be allowed therefore.

SECTION 301 – TREATED SOIL, SUBGRADE PREPARATION, AND PLACEMENT OF BASE MATERIALS

301-1 SUBGRADE PREPARATION.

301-1.3 Relative Compaction. [Add the following paragraph after the first paragraph]:

Existing or new subgrade shall be compacted to 95% relative compaction in the top 12" of subgrade. Compaction requirements shall be as specified in Subsection 211-2.3 of the Standard Specifications.

SECTION 314 – TRAFFIC STRIPING, CURB AND PAVEMENT MARKINGS, AND PAVEMENT MARKERS [Replace with the following]:

314-1 GENERAL. [Replace with the following]:

Traffic signs, stripes, legends, and raised pavement markers shall conform to the State of California, Department of Transportation Standard Specifications, Traffic Sign Specifications, California MUTCD, and Maintenance Manual Sections 84 and 85 as modified herein.

Pavement legends shall conform to Agency stencil size, shape and orientation. Stripes and pavement legends shall be reflectorized.

Removal of all conflicting traffic lines and pavement markings shall be completed by wet sandblasting and includes removal of raised pavement markers. In the case of thermoplastic, removals shall be accomplished by grinding with extra care taken so as to not create a divot in the existing pavement. The Contractor is hereby notified that the use of black paint to cover the existing traffic striping during any traffic detour shall not be allowed. The existing traffic striping shall be obliterated by wet-sand blasting (with immediate clean-up of sand-blasted areas) or by other methods approved by the City Engineer. At the end of construction all traffic striping shall be repaired and restored to the satisfaction of the Engineer.

Raised pavement markers shall conform to the California Department of Transportation Standard Specifications Section 85 and shall be of type as called for on the plans.

Traffic lane-line striping as indicated on plan shall be applied with (2) coats of paint. A minimum of (7) days shall be provided between first and second coat of paint, unless otherwise directed by Engineer. A three-inch (3") wide black paint shall be painted between yellow four-inch (4") stripes.

314-1.1 LAYOUT, ALIGNMENT, AND SPOTTING

Layout - The Contractor shall furnish the necessary control points for all striping and markings, and shall be responsible for the completeness and accuracy thereof to the satisfaction of the Engineer.

Spotting shall be completed prior to the removal of any existing stripes or markings. No striping work will start until the Engineer has approved the spotted or "cat-tracked" markings. Existing stripes and markings shall be removed prior to painting new ones, but in no case shall any section of street be left without the proper striping for more than (24) hours, or over weekends or holidays.

314-1.2 APPLICATION OF TRAFFIC PAINT

All markings shown on Plan shall be installed as per the Caltrans Standard Plan details indicated.

Traffic Paint shall be applied at the rate of 16 to 18 gallons per mile of solid 4-inch wide stripe (one gallon for every 98 square feet). The dry paint film thickness shall be 8 to 10 mils. Glass beads shall be applied at the rate of 110 pounds per mile of solid 4-inch wide stripe (one pound per 16 square feet).

Traffic stripes and painted pavement markings on new surfacing shall be applied in (2) coats, except where otherwise shown on the plans. The first coat of paint shall be completely dry before application of the second coat. On existing surfacing, traffic stripes and pavement markings shall be applied in one coat. Paint to be applied in one coat shall be applied at an approximate rate of one gallon per 107 square feet.

A 3 inch wide black stripe shall be painted between the two 4 inch wide yellow stripes of a double-yellow centerline traffic stripe.

Each coat of paint for any traffic stripe, including glass beads where required, shall be applied in one pass of the striping machine, regardless of the number, width, and pattern of individual stripes involved.

Paint to be applied in (2) coats shall be applied approximately as follows:

	<u>Square Foot Coverage per Gallon</u>	
	<u>First Coat</u>	<u>Second Coat</u>
Water Borne Paint	215	215

The exact rate of paint to be applied will be determined by the Engineer. The volume of paint applied shall be measured by stabbing the paint tank with a calibrated rod.

At the option of the Engineer, if the striping machine is provided with air atomizer spray units (not airless) and is equipped with paint gauges, the volume of paint may be determined by using such gauges.

Ready-mixed paints shall be suitable for use on either asphalt or Portland cement concrete.

Unless otherwise directed by the Engineer, glass beads shall be uniformly incorporated in all coats of paint concurrently with the application of the paint, except that glass beads shall not be applied to black paint. Beads shall be embedded in the coat of traffic paint being applied to a depth of one half their diameters.

Glass beads shall be applied at an approximate rate of (5) pounds per gallon of paint. The exact rate will be determined by the Engineer. The amount of glass

beads applied shall be measured by stabbing the glass bead tank with a calibrated rod.

314-1.3 INSTALLATION OF RAISED PAVEMENT MARKERS

Placement of raised pavement markers shall comply with Caltrans Specification Subsection 85-1.06. Application of epoxy shall comply with Caltrans Specifications Subsection 95-1.04.

314-1.4 MEASUREMENT AND PAYMENT

Payment for all Signing and Striping Installation shall be included in the contract lump sum price bid item for Traffic Signal Construction and shall include full compensation for furnishing all labor, material (including adhesives, glass beads, and paint, tools, equipment and incidentals; and for doing the work involved in striping, legends and raised pavement (reflective white/yellow/blue) markers complete in place, including removal of existing stripes, raised pavement markers and necessary traffic control as shown on the plans and as specified in these Special Provisions and as directed by the Engineer, and no additional compensation will be allowed.

TECHNICAL PROVISIONS
FOR
TRAFFIC SIGNAL MODIFICATION
AT THE INTERSECTION OF
ALICIA PARKWAY AND COMMUNITY CENTER DRIVE
IN THE CITY OF LAGUNA HILLS, CA

86-1 GENERAL

86-1.01 SUMMARY

Add the following:

Contractor shall provide the City with all Contractor-furnished traffic signal equipment shop drawings prior to ordering the equipment for approval.

Contractor shall furnish all tools, equipment, materials, supplies, and manufactured articles, including accepting and arranging for delivery and installation of Agency supplied materials, and shall perform all operations necessary to install the traffic signals and safety lighting, along with appurtenant signing, striping and minor concrete work, complete and in place as shown on the plan drawings and as specified in these Technical Provisions.

All work for furnishing, transporting, and installing traffic signals and safety lighting systems shall conform to the State of California Caltrans Department of Transportation (Caltrans) Standard Plans, 2010 edition, and Standard Specifications, Section 86, "Signals, Lighting and Electrical Systems", 2010 edition, except as noted otherwise on the Traffic Signal Modification Plan and in these Technical Provisions. The Caltrans Standard Plans and Standard Specifications are hereinafter referred to as State Standard Plans and State Standard Specifications. Where Section 86 of State Standard Specifications make reference to other sections of the State Standard Specifications, those sections shall also apply.

The Contractor to whom this project is awarded must possess a class A and/or C-10 contractor's license, or any combination of class 'C' contractor's licenses for trade work, issued by the State of California. Licenses shall have been issued to the bidder, shall not have been suspended or terminated, and shall otherwise be in full force and effect at the time the bid is submitted, at the time the Contract is awarded and signed, and at all times during the performance of the work under the Contract.

The Contractor shall submit a traffic control plan prepared on 24" x 36" sheets, stamped and signed by a California Registered Traffic Engineer or Civil Engineer to the City Engineer for review and approval at least fourteen (14) calendar days prior to commencing any work. Said plan shall indicate the locations of all signing, barricades, flashing arrow signs, delineators, lane closures, temporary lane lines, etc. required to control traffic and detours during construction. All such devices shall be removed from the view of traffic when not required and shall not be stored in the public right-of-way. Detours shall be in accordance with the California Manual on Uniform Traffic Control Devices (CA MUTCD). The Contractor shall submit detailed drawings of any proposed detour(s) to the Engineer for approval prior to the commencement of work. All traffic control devices, flaggers, labor, and materials shall be included. The Contractor shall provide, at his expense, advanced warning signs advising the public of the impending major construction project and his proposed schedule. Said signs shall be posted at all major approaches to the construction zone a minimum of two weeks prior to the start of construction. Working hours are from 9:00am to 4:00pm, Monday to Friday. Lane closures on arterial highways shall be limited to the hours of 9:00am to 4:00pm, Monday to Friday.

Contractor shall be responsible for providing temporary access to all driveways at the end of each workday and shall constantly keep open available for pedestrians all sidewalks and crosswalks. Contractor shall provide and maintain all other signs, barricades, pedestals, flashers, delineators, and other necessary facilities for the protection of the public within the limits of the construction area. Contractor shall also post proper signs to notify the public regarding detours and the condition of the roadway.

Special emphasis shall be placed on use of "ROAD WORK AHEAD" (W20-1) signs at the beginning, end and any access and/or intersection streets with roads under construction.

Portable delineators shall be placed as necessary for proper delineation of the travel way. When used for lane closures, the fluorescent traffic cones or portable delineators shall be placed at intervals not to exceed the following:

Tapers.....25 Feet
Edge of Closed Lane
Tangents.....50 Feet
Curves25 Feet

If the traffic cones or portable delineators are damaged, displaced or not in an upright position, from any cause, said cones or portable delineators shall immediately be replaced or restored to their original location, in an upright position, by Contractor.

When closure of half the roadway requires one-way traffic, Contractor shall provide two (2) flaggers, equipped with working two (2) way radios, one (1) at each end of the work area, with signing and delineation as per W.A.T.C.H. manual. If required, Contractor shall furnish competent flagmen as are necessary to give adequate warning to traffic or to the public of any dangerous conditions to be encountered. Flagmen, while on duty and assigned to give warnings to the public that the highway is under construction and of any dangerous conditions to be encountered as a result thereof, shall perform their duties and shall be provided with the necessary equipment in accordance with the current "Instructions to Flagmen," of the Department of Transportation. The equipment shall be furnished and kept clean and in good repair by Contractor, at his expense.

Should Contractor appear to be neglectful or negligent in furnishing warning and protective measures as provided, the Engineer may direct attention to the existence of a hazard and the necessary warning and protective measures shall be furnished and installed by Contractor at his expense. Should the Engineer point out the inadequacy of warning and protective measures, such action on the part of the Engineer shall not relieve Contractor from responsibility for public safety or abrogate his obligation to furnish and pay for these devices.

Contractor shall also be required to post "Temporary No Parking" signs 48 hours prior to start of work. The notification to property owners and "Temporary No Parking" signs shall be furnished by Contractor. Contractor shall also notify the following entities at least forty-eight (48) hours in advance of any street closure or restriction to access.

1. Fire Department
2. Police Department
3. Schools and School Bus Organizations
4. Trash Collectors
5. Street Sweeper

All existing stop signs, street name signs, and regulatory signs shall be maintained in visible locations during construction and permanently relocated or removed as directed by the Plan and the City Engineer. Signs, which need not be maintained during construction or permanently relocated, shall be salvaged to the City.

The use of flagmen should be clearly indicated on traffic control plans when working on one-way streets or other applicable roadway conditions. All related traffic control devices shall be removed from the view of traffic when not required and shall not be stored in the public right-of-way.

No work shall be started by Contractor until all necessary traffic control signs are on jobsite and have been approved by the City Engineer, or his field representative.

The system shall be complete and in operating condition at the time of acceptance of the project. Contractor shall provide guarantees for all work, materials, and labor valid for a period of one (1) year from the notice of completion date for the work by City.

Full compensation for conforming to this article shall be considered as included in the lump sum price bid for Mobilization and no additional compensation will be allowed therefore.

The following technical provisions are supplementary and in addition to the provisions of the State Standard Specifications, and are only called out if elaboration, amendments, replacements, specification of options, or additions are required. The following section heading numbers refer to the section in the Caltrans Standard Specifications.

86-1.04 EQUIPMENT LIST AND DRAWINGS

Equipment list and drawings of electrical equipment and material shall conform to the provisions of Section 86-1.04 "Equipment List and Drawings," of the Caltrans Standard Specifications and these Technical Provisions.

Add the following:

One (1) set Mylar copy, five (5) sets bond copy, and one (1) set of electronic copy on CD of cabinet schematic diagrams shall be furnished for the traffic signal location. No other type of reproducible material shall be allowed in place of Mylar copy.

The controller cabinet schematic wiring diagrams shall be provided on 24" x 36" sheets. One schematic wiring diagram shall be provided for left wall, back wall, right wall, and door. All pages shall have a title block containing the name of the intersection or location for which the plan represents. Wiring diagrams shall include all necessary information needed to install and maintain the cabinet enclosure. The Intersection Setup Sheet shall not be provided to replace any information on the wiring diagrams. The intersection sketch shall be provided on cover sheet with north up.

Contractor shall furnish two (2) maintenance and operation manuals for all controller units, conflict monitors, auxiliary control equipment, vehicle detector sensor units, and amplifiers, EVP, and communications equipment. The manuals shall be submitted at the time the equipment is delivered for testing. The manuals shall include, but not limited to, the following:

1. Specifications
2. Design characteristics
3. General operation theory
4. Function of all controls
5. Detailed circuit analysis
6. Troubleshooting procedure (diagnostic routine)
7. Voltage charts with wave forms
8. Geographical layout of components
9. Schematic diagrams
10. List of replaceable component parts with stock numbers

All manuals and documents furnished by the Contractor shall be placed inside a heavy duty, clear plastic envelope. The envelope shall be attached to the inside of the controller cabinet door.

Contractor-furnished material and equipment samples/submittals shall be properly identified and submitted for prior approval by City. Samples shall establish exact nature and character of materials and equipment that will be used in the project.

Following approval of all samples/submittals, three (3) bound copies shall be submitted to the City Engineer. The Contractor shall retain one copy of all approved material lists and samples at the job site readily accessible by the Engineer. Said materials lists and samples shall be the basis for approval or rejection of work.

Drawings of Record:

Contractor shall maintain, at the job site, one set of full size contract drawings marked with red-lines to show any deviations which have been made from the contract documents, including buried or concealed construction and utility features which are revealed during the course of construction. Said record drawings shall be supplemented by any detailed sketches as necessary or directed to fully indicate the work as actually constructed. Record drawings shall be accessible to the Engineer at all times during the construction period and shall be delivered to the Engineer upon completion of the works.

Requests for partial payments will not be approved if the record drawings are not kept current. The project inspector shall so verify prior to submittal of each progress payment. Request for final payment will not be approved until completed legible drawings of record, showing all variations between the work as completed and as originally shown on the contract documents have been delivered to the Engineer.

Full compensation for conforming to the requirements of this article shall be considered as included in the contract bid prices paid for the various items of work, and no additional compensation will be allowed.

86-1.05.1 WARRANTIES, GUARANTIES, AND INSTRUCTION SHEETS

The work will be inspected by the Engineer for acceptance upon receipt of Contractor's written assertion that the work has been completed. If in the Engineer's judgment the work has been completed and is ready for acceptance, it will so certify to City, which will accept the completed work.

In the certification, the Engineer will provide the date when the work was completed. This will be the date when Contractor is relieved from responsibility to protect the work.

A work and material guaranty for a period of one year from the date City records a notice of completion for the traffic signal, safety lighting, and electrical system work will be required for this contract. During this period, Contractor shall replace/repair any such defective work in a manner satisfactory to the Engineer, after notice to do so from the Engineer and within the time specified in notice. If Contractor fails to make such replacement or repairs within the time specified in the notice, the City may perform this work and Contractor's surety shall be liable for the cost thereof. The contract bonds required by these project specifications shall continue in full force and effect for the duration of the guaranty period.

86-1.06 MAINTAINING EXISTING AND TEMPORARY ELECTRICAL SYSTEMS

Maintaining existing and providing temporary electrical systems shall conform to the provisions in Section 86-1.06, "Maintaining Existing and Temporary Electrical Systems", of the Caltrans Standard Specifications and these Technical Provisions.

86-1.06A General

Add the following:

All temporary electrical installations shall be the responsibility of Contractor, and all work, materials and equipment required to keep the existing system operational shall be considered as included in the bid price for signal, safety lighting, and electrical system work, and no additional compensation shall be allowed therefore.

Temporary Poles:

As shown on Plan, due to the installation of a new Agency provided traffic signal mast-arm pole for Pole 1 at the existing pole location, a temporary mast-arm pole shall be installed to meet the needs of traffic operations and safety. Prior to installation of the temporary mast-arm pole, Contractor shall place applicable Sidewalk Closed/No Pedestrian Access signs on barricades on the north-side sidewalk between Via Lomas and Community Center (directed to use the bicycle trail), and provide localized ramping and water filled barricades for pedestrian protection and separation from traffic lanes. Contractor shall install a temporary 19-2-100 pole with a 25-foot mast-arm (with 2 mast-arm RYG vehicle heads), as shown on Plan. Contractor shall also install a temporary pedestrian push button pole on the work corner, and a 1-A pole with a left-turn arrow vehicle head in the center median, as shown on Plan. At minimum, the temporary pole footing shall be a plate with anchors on it, stacked with six (6) 5-gallon buckets filled with concrete on top of the plate.

Contractor shall provide the City with a complete and workable temporary electrical system plan proposed to be utilized during construction and signal changeover (i.e., temporary overhead wiring). Prior to the plan being implemented, City Engineer, or his field representative, shall approve said temporary electrical system. Contractor will be responsible for all costs associated with the final temporary electrical service plan approved by City Engineer.

Installation of temporary facilities or wiring for the convenience of Contractor during the progress of the work must also be submitted in writing and approved by the Engineer. The cost of installation and removal of such temporary facilities or wiring shall be at Contractor's expense.

As applicable, all vehicle and pedestrian indications, detectors, and control equipment, shall be maintained and operational, except during scheduled shutdown hours. The signal system shutdown shall be limited to the period between the hours of 9:00 a.m. and 3:00 p.m., unless otherwise approved by the City Engineer. Contractor shall notify City Engineering at least (48) hours prior to disconnecting any signal indications.

When an existing system is being modified, or a temporary system is required, the cost for maintaining the existing or temporary electrical systems work not shown on the plans or specified in the Technical Provisions, and which is considered by the Engineer as necessary to keep all or any part of the system in effective operation, shall be included in the contract price for the traffic signal, safety lighting, and electrical system work, and no additional compensation will be allowed.

Traffic signal shutdowns shall only be allowed with the approval of the Engineer for signal changeover. Contractor shall provide traffic control officers as deemed necessary by the Engineer during any traffic signal shutdowns.

Full compensation for traffic control officers shall be considered as included in the contract price paid for the signal work involved and no additional compensation will be allowed therefore.

86-1.07 SCHEDULING OF WORK

Add the following:

A tentative project schedule shall be submitted to the Engineer within fifteen (15) days after the date of the Notice of Award of Contract and/or prior to pre-work conference meeting. The schedule shall be supported by a written fully-detailed sales order acknowledgement from each supplier of Contractor-furnished materials or equipment indicating that all orders have been placed and acknowledged and setting forth the dates that each item will be delivered.

Submitted sales order acknowledgements shall be approved by City, or its representative, and shall be the only material or equipment used on this contract. All traffic signal heads, mountings, and hardware shall be new, painted (per Section 86-2.16 Painting), and fully assembled by the designated supplier, and include the installation of LED modules. Contractor shall not fabricate or assemble traffic signal heads or mountings, and shall only install them on the supplied poles.

It is important to note, for Type 15 and larger traffic signal poles shown on the Plan, utility potholing, using a probing method, has already been conducted by City. The first order of work for Contractor shall be to perform full potholing of the new traffic signal control equipment, including all signal pole foundations, signal cabinet foundations, and service foundations.

Contractor shall immediately notify the Engineer of any conflicts identified during their utility potholing work. Contractor may perform sub-surface work consisting of the installation of foundations, conduit, and detectors, prior to receipt of all electrical materials and equipment.

Above ground work shall not commence until such time that Contractor notifies the City Engineer in writing of the date that all electrical materials and equipment are received, and said work shall start within (15) days after the said date.

Contractor shall also schedule the work using the following restrictions:

1. Contractor shall ensure that a path of pedestrian travel be maintained at all times.
2. Contractor shall schedule the construction removals and replacements to ensure that pedestrian access on one side of the street's sidewalk be maintained at all times.

3. Final traffic striping and signs shall be installed by the day of signal turn-on.

Any initial turn-on shall be made between 9:00am and 12:00pm on Mondays through Thursdays, unless it is a day preceding a legal holiday. Contractor shall arrange to have a representative of CITY and the City Engineer, a City signal technician, and applicable representatives from the cabinet/controller assembly, video and EVP systems, present at the time the signal controller assembly is turned on. The controller representative shall be fully-qualified to work on the controller assembly, and shall be directly employed by the controller manufacturer. The Engineer's representative shall be notified at least (48) hours prior to the scheduled turn-on date.

86-2.01 EXCAVATING AND BACKFILLING

Excavating and Backfilling shall conform to the provisions in Section 86-2.01, "Excavating and Backfilling", of the Caltrans Standard Specifications and these Technical Provisions.

Add the following:

All excavated material shall become property of Contractor and be completely removed from the project site. Excavations shall be backfilled with new materials on the same day as removed, as indicated on Plan or approved by Engineer.

With permission of the City Engineer, a temporary alternate to backfilling shall be the placement of steel plates installed according to the City's approved trenching standards, recessed from the existing surface to be flush mounted with adjacent pavement. Such plating shall be skid resistant and shall not be allowed for more than five (5) working days, after which final backfill shall be required.

86-2.03 FOUNDATIONS

Foundation work shall conform to the provisions in Section 86-2.03, "Foundations" of the Caltrans Standard Specifications and these Technical Provisions.

86-2.03A General

Add the following:

Contractor shall review/define exact location of all utilities in the vicinity of the proposed foundation locations prior to excavation. The exact locations of foundations for new signal, safety lighting, and electrical system equipment shall be approved by the Engineer and/or his field representative prior to the start of any excavation work.

Temporary Poles:

As shown on Plan, due to the installation of a new Agency provided traffic signal mast-arm pole for Pole 1 at the existing pole location, a temporary mast-arm pole shall be installed to meet the needs of traffic operations and safety. Prior to installation of the temporary mast-arm pole, Contractor shall place applicable Sidewalk Closed/No Pedestrian Access signs on barricades on the north-side sidewalk between Via Lomas and Community Center (directed to use the bicycle trail), and provide localized ramping and water filled barricades for pedestrian protection and separation from traffic lanes. Contractor shall install a temporary 19-2-100 pole with a 25-foot mast-arm (with 2 mast-arm RYG vehicle heads), as shown on Plan. Contractor shall also install a temporary pedestrian push button pole on the work corner, and a 1-A pole with a left-turn arrow vehicle head in the center median, as shown on Plan. At minimum, the temporary pole footing shall be a plate with anchors on it, stacked with six (6) 5-gallon buckets filled with concrete on top of the plate.

New Pole Foundations:

As shown on Plan, the existing traffic signal mast-arm pole footing is to be removed complete, and a new footing reinstalled in the same place. Once the temporary poles are set, applicable foundations shall be hand-dug until clear of obstructions. It is possible that the hole generated from removing the existing foundation may become larger than the new foundation that needs to be poured back in its place. Regardless, in order to eliminate any voids caused by the removal of the old foundation, once the old foundation is removed, Contractor shall pour back the entire hole vacancy with 2-sack slurry. Provide mix design submittal for approval 14 days prior to need. Slurry shall cure a minimum of five calendar days prior to drilling/excavating the new foundation. After the slurry is cured, Contractor may re-dig the new round footing through the slurry.

It is important to note, the new traffic signal pole foundation shall conform to the 2010 Standard Plans and Specifications (**Non-Revised**).

If for some reason, as approved by City, Contractor is not able to install the new foundation in the same location as the existing mast-arm pole, the City shall be notified for verification/approval. If the City is in agreement, the City will field-mark another location for the new mast-arm pole that is closer to the signal cabinet where the City has already potholed for clearance. Should this change occur due to the Contractor's operations, there shall be no extra work claim allowed.

Portland cement concrete for the new footing shall be minimum Class 560-C-3250, Type II/V. Admixtures shall not be permitted. All new foundation concrete shall be vibrated when poured to eliminate air pockets.

A 28" traffic cone with reflective sleeve shall be bolted to all exposed anchor bolts during the period between installation of the foundation and installation of the standards or cabinet. A plywood or aluminum adapter may be used to secure the traffic cone to the anchor bolts.

Costs to remove existing foundation and install new foundations for posts, standards, pedestals as shown on Plan and all other traffic signal, safety lighting, and electrical system facilities, shall be considered to be included in the bid item price paid for the Traffic Signal Modification work, and no additional compensation shall be allowed therefor.

86-2.04 STANDARDS, STEEL PEDESTALS AND POSTS

Signal pole equipment shall conform to the provisions in Section 86-2.04, "Standards, Steel Pedestals, and Posts," of the CALTRANS Standard Specifications and these Technical Provisions.

86-2.04A General

Add the following:

Temporary Poles:

As shown on Plan, due to the installation of a new Agency provided traffic signal mast-arm pole for Pole 1 at the existing pole location, a temporary mast-arm pole shall be installed to meet the needs of traffic operations and safety. Prior to installation of the temporary mast-arm pole, Contractor shall place applicable Sidewalk Closed/No Pedestrian Access signs on barricades on the north-side sidewalk between Via Lomas and Community Center (directed to use the bicycle trail), and provide localized ramping and water filled barricades for pedestrian protection and separation from traffic lanes. Contractor shall install a temporary 19-2-100 pole with a 25-foot mast-arm (with 2 mast-arm RYG vehicle heads), as shown on Plan.

Contractor shall also install a temporary pedestrian push button pole on the work corner, and a 1-A pole with a left-turn arrow vehicle head in the center median, as shown on Plan. At minimum, the temporary pole footing shall be a plate with anchors on it, stacked with six (6) 5-gallon buckets filled with concrete on top of the plate.

Contractor shall remove and salvage mast-arm pole, as indicated on Plan. Salvaged equipment shall become the Contractor's responsibility.

New Traffic Signal Poles:

Contractor shall remove the existing mast-arm pole assembly shown on Plan. New traffic signal pole, signal and luminaire arms, and anchor bolts shown on the Plan shall be AGENCY-furnished (CITY) and Contractor-installed complete and in place. It is important to note, the traffic signal pole equipment shall conform to the 2010 Standard Plans and Specifications (**Non-Revised**). Contractor shall make delivery arrangements from the supplier and deliver to the project job site.

Contractor shall obtain City approval for exact equipment locations prior to final placement. New standards shall be installed with three (3) feet minimum clearance between the pole face and curb face, unless otherwise shown on Plan. Standards shall be set at grade in unpaved areas or at existing or future sidewalk grade level. New standards shall not be erected or installed until the new concrete foundations have set at least one week and all new conduit, pull boxes, wiring, and other underground installation is complete and in place; and new signal faces, signs, and other materials required to complete the installation in its entirety have been inspected by City, and are in Contractor's possession and available for immediate installation.

The cost of removal of existing pole equipment and transportation and installation of each Agency-supplied standard, steel pedestal and post, and anchor bolts as shown on Plan shall be included in the bid item price paid for the Traffic Signal Modification work, and no additional compensation shall be allowed therefor.

86-2.05 CONDUIT

Conduit shall conform to the provisions in Section 86-2.05, "Conduit" of the Caltrans Standard Specifications and these Technical Provisions.

86-2.05A Material

Add the following:

Contractor shall furnish and install Type 3 rigid, non-metallic, Schedule 80 PVC conduit, unless shown otherwise on Plan. All new conduit shall be minimum 2" diameter, unless otherwise noted on Plan. All conduits shall terminate in a pull box or approved terminating equipment. Applicable service conduit shall conform to SDG&E utility requirements.

86-2.05C Installation

Add the following:

Boring or drilling methods shall be used for the installation of new conduit, as trenching-in-pavement method is not allowed, unless approved by City Engineer.

Rigid metal drill rod to be used as a drilling or jacking rod for new conduit shall be fitted with suitable drill bits for the size as approved by the Engineer. Conduit runs shall be installed continuous in same type material from the beginning to the terminating end of the run.

Conduit runs are shown on the Plan in schematic form only. The actual installation shall be completed in the most direct manner possible without interfering with existing underground facilities. Contractor shall locate all interfering underground utilities as required by the State Standard Specifications to facilitate the installation of the new conduit in the most direct manner, and minor changes will not constitute extra work.

All conduit shall enter through the bottom of a pullbox, shall terminate 2" above the bottom, and shall be located near the end walls to leave the major portion of the box clear. Conduit terminating in standards or pedestals shall extend not more than 2" vertically above the foundation and shall be sloped toward the hand-hole opening.

All conduit ends shall have an approved bell bushing installed.

Non-metallic conduits without a grounding conductor shall have a bare #8 AWG solid copper wire installed that shall terminate at each pull box and at the ends of conduit runs. Twenty-four (24) inches of the solid copper wire shall be coiled in each pull box. After conductors have been installed, the ends of conduits terminating in pull boxes; the controller cabinet or other terminating facilities shall be sealed with an approved type of sealing compound (duct seal only).

Contractor shall install applicable electrical service conduit and conductors in conformance with San Diego Gas & Electric (SDG&E) requirements, and under their supervision.

86-2.06 PULL BOXES

Pull boxes shall conform to the provisions in Section 86-2.06, "Pull Boxes" of the Caltrans Standard Specifications and these Technical Provisions.

86-2.06A Materials

Add the following:

All new pull boxes shall be Christy Concrete Products, Inc., with Fiberlyte lid or approved equal.

Pull boxes, covers, and extensions for installation in sidewalk areas, or in unimproved ground areas, shall be of the sizes and details shown on the Plan and shall be pre-cast of reinforced Portland Cement Concrete (PCC). Plastic pull boxes shall not be used.

All pull boxes adjacent to controller cabinet shall be No. 6E with grout installed between pull box and extension box. All other pull boxes shall be No. 6, unless otherwise specified on the Plan.

Bolt-down pull box covers are not required unless it is a traffic bearing pull box. If applicable, traffic bearing pull boxes, covers and footing shall adhere to Section 86-2.06A in the Caltrans Standard Specifications.

As applicable, new pullboxes for SIC shall be installed at 400-foot maximum spacing.

86-2.06B Cover Marking

Add the following:

Covers for pull boxes, except for ceiling pull boxes, shall be marked as follows:

- (a) "TRAFFIC SIGNAL": Where pull box contains traffic signal conductors with or without street lighting conductors. Traffic signal conductors include all field wiring, and loop detector conductors and video coaxial cables.
- (b) "TRAFFIC S.I.C.": Traffic Signal Interconnect copper cable or Communications cable.
- (c) "TRAFFIC F.O.": Traffic Signal Interconnect Fiber Optic Communications cable.
- (d) "STREET LIGHTING": Where a pull box contains street lighting conductors only. "HIGH VOLTAGE" shall be added where street lighting voltage is above 600 volts.
- (e) "TELEPHONE": Where pull box contains telephone conductors only.
- (f) "SCE": Where pull box contains Edison (SCE) Company conductors.

86-2.06C Installation and Use

Add the following:

Contractor shall install new pull boxes in order to complete the modified traffic signal system as specified on Plan. The amount of pull boxes shown on the plan is to be installed as a minimum. The Contractor may, upon approval and at his expense, install additional pull boxes to facilitate his work. New pull boxes shall be placed with their tops flush with surrounding finish grade. **Any area disturbed by Contractor at/near an existing pull box shall have pull box replaced with new.**

Grouting is required at the bottom of all pull boxes, unless otherwise specified by Engineer.

A pull box in sidewalk area or in unimproved ground must be installed as follows:

1. Embed bottom of the pull box in crushed rock.
2. Place a layer of roofing paper on the crushed rock.
3. Place grout over the layer of roofing paper. Grout must be 0.50 to 1 inch thick and sloped toward the drain hole.
4. Make a 1-inch drain hole in the center of the pull box through the grout and roofing paper.
5. Place grout between the pull box and pull box extension, and around conduits.
6. Remove and replace full width sidewalk panels.

The top of the pull box must be flush with the surrounding grade or the top of an adjacent curb, except in unpaved areas where the pull box is not immediately adjacent to and protected by a concrete foundation, pole, or other protective construction.

In unpaved areas, place the pull box 1-1/4 inches above the surrounding grade. Where practical, place a pull box shown in the vicinity of curbs or adjacent to a standard on the side of the foundation facing away from traffic. A pull box for a post or a pole standard must be located within 5 feet of the standard. Place a pull box adjacent to the back of the curb or edge of the shoulder. If this is impractical, place the pull box in a suitable, protected, and accessible location.

Contractor shall reconstruct the sump of an existing pull box if disturbed by his activities. Remove old grout and replace with new if the sump was grouted.

Do not install pull box in curb ramps or driveways.

Within the pull box, the conduit shall be placed in a manner such that the lowest portion of the opening shall be a minimum of two (2) inches above the grouted bottom of the pull box, and the upper portion of the opening shall be a minimum of eight (8) inches from the top of the pull box.

The conduit shall also be placed in a manner that will allow any cables/wires to be pulled in a straight line and clear the side of the pull box by a minimum of two (2) inches (angle of exit.)

If applicable, existing conduit may need to be adjusted at locations on plan where a new pull box is called for. All broken or damaged pull boxes and pull box lids shall be replaced and adjusted to grade.

86-2.08 CONDUCTORS AND CABLES

86-2.09 WIRING

Conductors and cables shall conform to the provisions of Section 86-2.08, "Conductors and Cables," and wiring shall conform to the provisions of Section 86-2.09, "Wiring," of the State Standard Specifications and these Technical Provisions.

86-2.08A General

Add the following:

Contractor shall furnish and install a new cable for the relocated Econolite video detection system and the GTT Opticom EVP system, as shown on Plan.

Signal cable shall be installed continuously and without splices between signal pole terminal block and signal cabinet, unless otherwise approved by the Engineer or his field representative.

Conductors No. 8 AWG and larger shall be stranded. Plastic conduits containing power circuit conductors shall have a bare No. 8 AWG solid grounding copper conductor that shall terminate at each pull box at the ends of the conduit run. Splices shall be Type C insulated by Method B as shown on State Standard Plan ES-13A. Conductors No. 10 AWG or larger shall be spliced by the use of "C" shaped compression connector, and soldered.

Contractor shall install applicable electrical service conduit and conductors in conformance with San Diego Gas & Electric (SDG&E) requirements, and under their supervision.

Contractor is responsible for any pre-approved temporary wiring required to keep the existing traffic signal in full operation during the construction period.

86-2.08D Signal Cable

Add the following:

Signal cable shall be installed for phase wiring in lieu of individual conductors, unless otherwise shown on the Plan.

86-2.10 BONDING AND GROUNDING

Add the following:

Ground jumper shall be attached by a 3/16 inch or larger brass bolt in the signal standard or controller pedestal and shall be run to the conduit, ground rod or bonding wire in adjacent pull box.

Grounding jumper shall be visible after cap has been poured on foundation. If applicable, grounding rod in controller pedestal shall be a copper rod with a minimum 5/8" x 8' penetration into the earth (approximately 11' total rod length). Rod shall extend 1" above finished pedestal surface.

No. 8 minimum copper bond wire shall be run continuously in all circuits.

86-2.11 SERVICE

Electrical service shall conform to the provisions in Section 86-2.11, "Service," of the CALTRANS Standard Specifications and these Technical Provisions.

Contractor shall protect-in-place the existing 120/240 V Type III-BF service cabinet.

86-2.14 TESTING

Testing shall conform to the provisions in Sections 86-2.14B and 86-2.14C, "Field Testing," and "Functional Testing", respectively, of the Caltrans Standard Specifications and these Technical Provisions.

Add the following:

Turn-on of the modified traffic signal system shall be made on Monday through Wednesday only, and not on the day preceding a legal holiday. City Engineer shall be notified at least (1) week prior to the intended "turn-on". City Engineer will then schedule a pre-turn-on inspection for the workday prior to turn-on. Contractor shall be present for the pre-turn-on inspection and shall make all repairs prior to the scheduled turn-on.

The signal turn-on shall be scheduled for 10:00AM and representatives of Contractor, City, City signal maintenance technician, qualified representatives from the controller, video detection, and EVP suppliers, and other necessary sub-contractors shall be present at that time. If the signal cannot be made fully operational by 1:00PM, the site shall be secured for non-signal operation and Contractor will be directed to re-schedule the turn-on.

All roadway signing, striping, markers and markings shall be in place prior to the signal turn-on.

Delays due to scheduling and re-scheduling of signal turn-on are the responsibility of the Contractor and are subject to liquidated damages.

86-3 CONTROLLER ASSEMBLIES

Solid-state traffic actuated controller units, cabinets and auxiliary equipment shall conform to the provisions in Section 86-3 "Controller Assemblies" of the CALTRANS Specifications, these Technical Provisions and NEMA TS-2 standards.

Add the following:

Contractor shall carefully remove and salvage the existing Type P signal controller cabinet assembly.

1. Controller/Cabinet Assembly

A new Agency-furnished completely-wired Controller/Cabinet Assembly and appurtenances shall be supplied by Econolite Control Products (without controller).

Contractor shall re-use and re-install the existing Econolite Cobalt TS2 Type 2 Controller unit, MMU, Solo Terra panel and video hub video detection system equipment, and Actelis Model ML-688 Ethernet switch in the new signal cabinet, as indicated on Plan.

Contractor shall provide miscellaneous items as necessary to produce a fully-operational system in accordance with the specifications and Caltrans Standard Plans and Standard Specifications. Power distribution panel, inside auxiliary control panel, police panel and all detector termination panels shall be hard-wired.

2. Cabinet Assembly

For the new cabinet assembly, Agency shall furnish and install a Type "P-44" white aluminum cabinet assembly that includes the following items:

- i. One (1) - Fully wired eight (8) phase NEMA TS2 Type 2 "P-44" white aluminum cabinet.
- ii. Up to two (8) position TS2 detector racks with (8) two-channel detection, as indicated on Plan, and one (1) Bus Interface Unit per rack.
- iii. Sixteen (16) position load bay.
- iv. Twelve (12) load switches.
- v. One (1) - Controller cabinet power supply.
- vi. TIO panel with connector cable.
- vii. D panel with connector cable.

3. Cabinet Construction

A complete NEMA TS2 Type 2 “P-44” cabinet shall be supplied by Agency and installed by Contractor. Cabinet shall meet, as a minimum, all applicable sections of the NEMA Standard Publication. Where differences occur, this specification shall govern. The cabinet shall meet the following criteria:

- i. Material shall be aluminum sheet, 5052-H32, with a minimum thickness of 0.125- inch.
- ii. **The cabinet exterior shall be white finish aluminum AS DIRECTED BY CITY with a white interior.**
- iii. The door hinge shall be of the continuous type with a stainless steel hinge pin.
- iv. The door handle shall be cast aluminum.
- v. All seams shall be sealed with RTV sealant or equivalent material on the interior of the cabinet.
- vi. Cabinet lock shall be of the Corbin No. 2 type.
- vii. The cabinet shall have four (4) sets of cabinet wiring diagrams.
- viii. The cabinet shall have one (1) set of equipment manuals (Controller, MMU, etc.).

Shelves

There shall be two (2) aluminum shelves extending completely across the back of the cabinet in the top cabinet area. The rear of all shelves shall be turned upward to prevent shelf mounted equipment from coming in contact with the back panel or rear wall. The shelves or any other appurtenances shall not interfere with the lowering or removal of the main panel.

1. The first aluminum shelf extending completely across the back of the cabinet shall be provided to support the detector rack(s) and power supply.
2. The second aluminum shelf extending completely across the back of the cabinet shall be provided to support the controller, and master (if required), Ethernet switch, and the MMU. The second aluminum shelf shall also have an Econolite 34448G2 pull out drawer, or City approved equivalent, installed.

Equipment Accessibility

All mounted panels and equipment shall have a minimum tool access clearance of 6".

Ventilating Fan

The cabinet shall be provided with one (1) thermostatically-controlled ventilation fan, adjustable between 80 to 150 degrees F, and shall be installed in the top of the cabinet plenum.

Air Filter Assembly

The cabinet Air Filter shall be a one-piece removable, medium efficiency, synthetic, pleated (Econolite Part No. 57389P11) air filter, and shall be firmly secured to the air entrance of the cabinet.

Cabinet Light Assembly

The cabinet shall be equipped with an LED lighting fixture mounted on the inside of the cabinet near the front edge. The LED light shall be activated by an On/Off switch that is turned on when the cabinet door is opened, and turned off when the door is closed.

Lightning Suppression

The cabinet shall be equipped with an EDCO Model SHP-300-10 surge arrester, or City approved equivalent.

Power Panel

The Power Panel shall house the following equipment:

1. One (1) 40 Amp main breaker to supply power to the main panel, controller, MMU, and cabinet power supply.
2. One (1) 15 Amp auxiliary breaker to supply power to the fan, light, and GFCI outlet.
3. One (1) 50 Amp, 125 VAC radio interference line filter.
4. One (1) normally-open, 60 Amp, Crydom Model #HA8475 solid state relay, or City approved equivalent.

Convenience Outlet

Two (2) duplex outlets shall be supplied, as per the following:

1. The first is for short-term equipment use, 120 volt AC, 15 Amp NEMA 5-15 GFCI duplex outlet, and shall be mounted in the lower right corner of the cabinet facing the inside of the cabinet door and within 6" of the front edge of the opening of the door.
2. The second is for long-term equipment use, 120 volt AC, 15 Amp NEMA duplex outlet(s), and shall be conveniently located and sufficient to provide power to all existing ancillary equipment. Power shall be supplied from un-switched filtered power.

Inside Auxiliary Control Panel Switches

The inside door panel shall contain three (3) switches: Auto/Flash, Auto/Off/On Stop-Time, and Power On/Off. Auxiliary door panel switches shall be hard-wired; printed circuit boards shall not be used.

1. Auto/Flash Switch (2-Position) In the Auto position, the intersection shall operate normally. In the Flash position, power shall be maintained to the controller and the intersection shall be placed in flash. The controller shall not be stop-timed when in flash. A guard shall be installed to prevent the switch from being shut-off accidentally.
2. Auto/Off/On Stop-Time Switch (3-Position) In the Auto position, the controller shall be stop-timed when the police door Auto/Flash Switch is in the Flash position or MMU flash. In the Off position, the switch shall release all stop-time from controller. In the On position, the switch shall maintain a continuous stop-time to the controller.
3. Controller Power On/Off Switch (2-Position) This switch shall control the controller's AC power. A guard shall be installed to prevent the switch from being shut off accidentally.

Police Panel Switches

The Police Panel shall contain two (2) switches: Signals On/Off and Auto/Flash. All police panel switches shall be hard-wired; printed circuit boards shall not be used.

1. Signals On/Off Switch (2-Position) In the On position, the field displays shall show either normal operation or flash. In the Off position, power shall be removed from signal heads in the intersection. The controller shall continue to operate. In the Off position, the MMU shall not conflict or require reset.
2. Auto/Flash Switch (2-Position) In the Auto position, the intersection shall operate normally based on all other switches. In the Flash position, power shall not be removed from the controller and stop-time shall be applied based on the Stop-Time switch.

Cabinet Wiring

Cables

All Controller and MMU cables shall have sufficient length to access any shelf position. All cables shall be encased in a protective sleeve along their entire free length. Cables shall not obstruct the display or use of any cabinet equipment.

All cabinet wiring shall be color coded as follows:

Purple=	Flash Color programming
Brown =	Green Signal wiring
Yellow=	Yellow Signal wiring
Red =	Red Signal wiring
Blue =	Controller wiring
Gray =	DC ground return, logic ground
Black =	AC positive
White =	AC negative
Green =	Chassis

Main-Panel and Wire Terminations

All wires terminated behind the main-panel and other panels shall be soldered. No pressure or solder-less connectors shall be used. Printed circuit boards shall not be used on main panels.

Flashing Operation

Cabinet shall be wired for NEMA flash. All cabinets shall be wired to flash Red for all phases. Flashing display shall alternate between phases 1, 4, 5 and 8, and phases 2, 3, 6 and 7.

Detector Rack and Interface

TS-2 Vehicle Loop detector racks with field termination panel, TS-2 power supply, and SDLC cable shall be provided. Each individual rack shall support up to sixteen (16) channels of loop detection and one (1) BIU. The number of racks installed shall be determined by the number of loop detection channels required on the signal plan.

Main Panel Configuration

The main panel shall be fully-wired in the following configuration:

1. Sixteen (16) load sockets.
2. Six (6) flash transfer relay sockets.
3. One (1) flasher socket.
4. Wiring for both Type 1 and Type 2 Controllers.
5. Wiring for one Type 16 MMU. Field Terminal Locations

Field terminals shall be located at the bottom of the main panel and angled forward for easy viewing and wiring. The order shall be from left-to-right beginning with phase one and following the order of the load switches. Field terminals shall be of the barrier type.

Cabinet Equipment

Detectors

New cabinets shall be equipped with the proper number of detectors, as required.

Controller Unit

The new cabinet shall re-use the existing Econolite Cobalt controller, as well as the existing Malfunction Management Unit (MMU), video detection system equipment, and Actelis Ethernet switch.

Bus Interface Unit (BIU)

BIU's shall meet all TS2-1992, Section 8 requirements. In addition, all BIU's shall provide three (3) separate front panel indicators: Power, Valid Data, and Transmit.

Cabinet Power Supply

The cabinet power supply shall meet the NEMA TS2 specification. All power supplies shall also provide a separate front panel indicator LED for each of the four (4) power outputs. Front panel banana jack test points for 24 VDC and logic ground shall also be provided.

Interconnect Termination

New cabinets shall be supplied with interconnect termination and sub-base assembly.

Flasher Unit

All flasher units shall meet NEMA TS-2, Section 6 requirements and shall be EDI Model 810, or City approved equivalent.

Intersection Diagram

For the new cabinet, an intersection diagram prepared in AutoCAD shall be provided on an 8.5" x 11" sheet of paper and enclosed in a protective plastic cover. The diagram and protective cover shall be located on the inside of the cabinet door above the Auxiliary Panel. The diagram shall depict the general intersection layout, phases, overlaps, detector assignments, and north arrow. The top of the diagram will be north and the diagram shall be pre-approved by the City Engineer, or his designee.

Cabinet Wiring Diagram

New cabinet wiring diagrams shall be arranged on three (3) separate sheets in a simplistic way to facilitate the reading of it. The first sheet shall represent everything on the left side of the cabinet, the second sheet everything in the middle of the cabinet including the main panel, and the third sheet everything on the right side of the cabinet. The final cabinet wiring diagram layout shall be approved by the City Engineer, or his designee. Construction of the cabinet shall not begin until wiring diagrams are approved.

Contractor shall arrange to have an Econolite signal technician, qualified to work on the controller assembly and employed by the controller manufacturer or its representative, present at the time the equipment is turned on.

86-4 TRAFFIC SIGNAL FACES AND FITTINGS

Vehicle signal faces, signal heads, and auxiliary equipment, as shown on Plan and the installation thereof, shall conform to the provisions in Section 86-4.01 Vehicle Signal Faces to 86-4.05 Flashing Beacons of the CALTRANS Standard Specifications and these Technical Provisions.

Add the following:

All signal heads shall be new, black in color, supplied by the same manufacturer, and shall be made of metal, with 12-inch diameter indications with full circle visors, and with one-piece metal backplates.

Elbow fittings shall be bronze. All optical vehicle signal indication units shall utilize the Light Emitting Diode (LED) type signal modules. The LED signal module shall be manufactured by "Dialight Corporation", or approved equal, (no screw-in type) and shall meet ITE specifications. All certifications and warranties required under the Caltrans Specification for LED signal units shall be provided.

A written fully-detailed sales order acknowledgement from the vehicle and pedestrian head assembly supplier shall be submitted to City indicating that all orders have been placed and acknowledged and setting forth the dates that each item will be delivered. Submitted sales order acknowledgements shall be approved by the City or its representative and shall be the only material or equipment used on this contract. All traffic signal heads, mountings, and hardware shall be new, fully-assembled by the designated supplier, and include the installation of LED modules. Contractor shall not fabricate or assemble traffic signal heads or mountings, and shall only install them on the poles supplied per plan.

Where a signal face is to be supported by a Type MAS side attachment slip-fitter inserted between 2 signal sections, a spacer or spacers shall be placed between the 2 sections. The vertical dimension of spacers shall permit proper seating of the serrations between the slip-fitter and the 2 sections. Holes in spacers shall align with front holes in the section housings.

In addition to the fastening through the large openings in the housing, the 2 sections shall be joined with at least 2 bolts through the holes near the front of the housings and spacers, and through matching holes in a reinforcing plate installed within each housing.

Spacers shall be made of same material as signal housing. Reinforcing plates shall be aluminum with a minimum thickness of 0.125-inch and shall be painted to match housing. Bolts for joining signal sections shall be stainless steel or cadmium-plated steel with round or binder heads.

In addition to Section 86-4.04, "Signal Mounting Assemblies," of the Caltrans Standard Specifications, the following provisions shall apply whenever a terminal compartment is required:

The terminal block shall be mounted vertically and to the side of the cable inlet guide. Sufficient lateral spacing shall be provided to allow pulling and connecting of incoming conductors without removal of the terminal block mounting screws.

A minimum of one (1)-inch clearance shall be provided between the terminal block and all inside walls of the terminal compartment. The terminal compartment shall be provided with a captive hinged access door.

With the door open, there shall be a minimum of a ten-by-four inch (10" x 4") access to the terminal compartment for connection and inspection of the terminal block. The door shall be equipped with a neoprene gasket, permanently secured, to prevent water from entering the terminal compartment and captive screws for securing door. The mounting bolt spacing and cable guide location shall be as dimensioned on drawing ES-4D of the Caltrans Standard Plans.

86-4.03 PEDESTRIAN SIGNALS

Pedestrian signals shall conform to the provisions in Section 86-4.03, "Pedestrian Signal Faces," of the State Standard Specifications and these Technical Provisions.

Add the following:

New pedestrian signals shall be Type A with egg crate type screens and shall be of the International symbol type. The pedestrian head housing and door shall be black in color, and made of metal with no plastic parts, and shall be 16 inches by 18 inches.

Pedestrian signal ground wires shall not have splices between the poles and the controller cabinet. All pedestrian signal ground wires shall be joined and grounded within the controller cabinet. All optical pedestrian signal units shall be of the Light Emitting Diode (LED) type (no screw-in type) and shall be Countdown type.

The LED module units provided shall be Dialight Corporation, or approved equal, and shall meet ITE specifications. All certifications and warranties required under the Caltrans Specification for LED signal units shall be provided.

86-5 DETECTORS

Add the following:

Video Detection:

Contractor shall remove existing Econolite Autoscope Vision video detection system, including camera, mounting hardware, and cabling from the existing mast-arm pole shown on Plan. Contractor shall reinstall the equipment on the new mast-arm pole, using new cabling (Contractor-furnished), as shown on Plan. Contractor shall re-program all video detection zones as required.

Contractor shall be responsible for all damage sustained to the existing video detection system equipment as a result of the removal/re-installation tasks, and all corrective action shall be performed at Contractor's expense.

Contractor shall arrange to have a representative of the video detection system present at the turn-on of the project location.

The price bid for the removal and re-installation of the video detection equipment shall be considered to be included in the price paid for the Traffic Signal Modification bid item, with no additional compensation allowed, and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the video detection removal/re-installation related work involving installing, placing, and the components of video detection traffic control system as specified on Plan, in these Technical Provisions, and as directed by the City.

86-5.01D Emergency Vehicle Detector System

Add the following:

Contractor shall remove existing GTT Opticom emergency vehicle preemption (EVP) detector system, including EVP detector, mounting hardware, and cabling from the existing mast-arm pole shown on Plan. Contractor shall reinstall the equipment on the new mast-arm pole, using new cabling (Contractor-furnished), as shown on Plan.

Contractor shall be responsible for all damage sustained to the existing EVP system equipment as a result of the removal/re-installation tasks, and all corrective action shall be performed at Contractor's expense.

It shall be the responsibility of Contractor to have a certified dealer representative from the manufacturer of the GTT Opticom Emergency Vehicle Preemption (EVP) equipment present for the turn-on day of the traffic signal EVP function test, to ensure proper installation, connection, and functioning of the equipment.

Contractor shall provide a vehicle equipped with an emitter to test and verify satisfactory operation of the EVP system. The transmitting equipment is not included in this Contract.

The price bid for the removal and re-installation of the EVP equipment shall be considered to be included in the price paid for the Traffic Signal Modification bid item, with no additional compensation allowed, and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the EVP equipment removal/re-installation related work involving installing, placing, and the components of EVP traffic control system as specified on Plan, in these Technical Provisions, and as directed by the City.

86-5.02 Pedestrian Push Button Assemblies

Pedestrian push button assemblies and detector loops shall conform to the provisions of Section 86-5, "Detectors," of the State Standard Specifications and these Technical Provisions.

Add the following:

New pedestrian push buttons shall be ADA compliant (2-inch diameter), Type B, Polara Bulldog No. BDL3-B (momentary, non-latching) with a stainless steel button, black body on a black frame.

Fasteners used shall be stainless steel tamper proof screws for pedestrian push-button assemblies. Pedestrian calls to the controller shall be independent, by phase, and not as concurrent thru-phase pairs. Pedestrian signal ground wires shall not have splices between the poles and the controller cabinet unless approved by the Engineer or his representative in the field. All pedestrian signal ground wires shall be joined and grounded within the controller cabinet.

86-6 LIGHTING

Replace with the following:

Contractor shall furnish and provide the following safety lighting luminaire, as indicated below and on the traffic signal Plan:

Verdeon roadway LED luminaire manufactured by Eaton (Cooper Lighting Solutions):

- 1) Part # VERD-G-A02-E-U-T3-AP, or approved equal (Qty. 1).

The contract lump sum price bid for the new LED safety lighting fixture and installation shall be considered to be included in the price paid for the Traffic Signal Modification bid item, with no additional compensation allowed, and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the lighting installation related work involving installing, placing, and the components of new traffic control lighting system as specified on Plan, in these Technical Provisions, and as directed by the City.

86-6.09 INTERNALLY ILLUMINATED STREET NAME SIGNS (IISNS)

Add the following:

Contractor shall remove all existing IISNS, including sign, mounting hardware, and cabling from the existing mast-arm poles. Contractor shall furnish and install new IISNS equipment on the new and existing mast-arm poles, using new cabling (Contractor-furnished), as shown on the Plan. IISNS to be Temple Edge-Lit Razor as available through Nextech Systems, Inc. (714) 289-8940.

Contractor shall be responsible for all damage sustained to the existing equipment as a result of the removal/re-installation tasks, and all corrective action shall be performed at Contractor's expense.

The price bid for the removal and re-installation of the IISNS equipment shall be considered to be included in the price paid for the IISNS bid item, with no additional compensation allowed, and shall include full compensation for furnishing all labor, materials, tools, equipment and incidentals and for doing all the IISNS removal/re-installation related work involving installing, placing, and the applicable components as specified on Plan, in these Technical Provisions, and as directed by the City.

86-8 PAYMENT

Full compensation for conforming to the requirements of **Traffic Signal and Highway Lighting Installation** bid item shall include:

1. all works required under the Project Plan and these Technical Provisions;
2. removal and installation of applicable foundations, conduit, pullboxes, wiring, bonding and grounding, pedestrian and vehicle head equipment, video detection & EVP systems, safety lighting, IISNS, applicable electrical systems, and installation of Agency-furnished signal cabinet and traffic signal pole assemblies, including applicable transportation, shall be included in the contract unit price for Traffic Signal Modification;
3. furnishing all labor (including various signal related technicians on turn-on day), tools, materials, equipment and incidentals necessary for doing the work, complete in place, as shown on the Plan and as directed by Engineer in field;
4. and all related costs shall be considered as included in the lump sum bid price paid for the **Traffic Signal and Highway Lighting Installation** bid item, and no additional compensation will allowed therefore.

CONCRETE ACCESS RAMPS

Concrete access ramps shown on the signal Plan shall be protected in place.

As shown on Plan, certain access ramps are to be modified with the installation of a new detectable warning surface (truncated dome).

Detectable warning surface work shall consist of furnishing and installing a cast-in-place tactile tile module on existing access ramps that do not have one, and as directed by City Engineer.

Detectable warning surface shall be Vitrified Polymer Composite (VPC) Cast In-Place Tactile Armor-Tile manufactured by Engineered Plastics Inc. (1-800-682-2525), or approved equal. The tile shall be homogenous blue in color throughout the tile and shall be 3' x 4' and/or 3' x 5', as applicable.

During all tile installation procedures, ensure adequate safety guidelines are in place and that they are in accordance with the applicable industry and government standards.

APPENDIX

INTERNALLY ILLUMINATED LED STREET NAME SIGNS

Specifications for the Internally Illuminated LED Street Name Signs

Temple Edge-Lit R409 (Also called the Temple Edge-Lit RAZOR™ LED Edge-Lit Internally Illuminated Street Name Sign).

1.0 Mechanical Specifications

The outer dimensions of the sign assembly shall be standard nominal heights of 15, 18, 20, 22, 24, 28, and 30 inches, and standard nominal widths of 4, 5, 6, 7, 8, 9, or 10 feet. The Sign's length shall also be fabricated to allow for 6" inch interval length increments to best fit the Sign's legend.

The maximum thickness of the sign shall be 1.60 inches, as measured front-to-back, to include the end cap. End caps shall be used to secure both ends of the signs and all internal components, and each end cap shall be fabricated using a single sheet of 0.090" thick Type 5052-H32 grade aluminum.

The maximum weight of each sign shall be determined by the total width and height of the sign's outside finished dimensions. Individual sign weights, including their outside finished edges, shall be calculated as NOT TO EXCEED (NTE):

4' x 18": NTE 38 lbs

6' x 18": NTE 50 lbs

8' x 18": NTE 65 lbs

4' x 24": NTE 45 lbs

6' x 24": NTE 63 lbs

8' x 24": NTE 79 lbs

8' x 30": NTE 90 lbs

8.5' x 30": NTE 95 lbs

9' x 30": NTE 100 lbs

The long edges of the sign shall be made from a single section of 6000 series aluminum extrusion. The ends caps shall be made from a single section of aluminum and shall be affixed to the frame with stainless steel screws. The power supply shall be mounted internally in one of the end caps. The non-electrical end cap shall be removable to enable replacing panels and components.

The sign shall have a front panel that is UV, weather, abrasion and impact resistant. The front panel shall be replaceable so that maintaining agencies have the option to supply

their own sheeting and 3M 1170 series Electrocut film for the sign faces.

2.0 Exterior Finish

All exterior surfaces of the sign assembly shall be powder-coat painted in accordance with Military Standard MIL-C-24712. Finish will meet the requirements of ASTM D3359, ASTM D3363, and ASTM D552.

The sign enclosure shall have a weatherproof design that ensures water does not reach internal components, and shall be able to do so in its design, without the use of silicone.

No silicone will be used in the weather resistant seal of the sign.

3.0 Sign Face and Material

Sign faces shall be designed using only current MUTCD approved fonts and font sizes, in addition to the requesting Agency's own preferences and specifications.

The Sign shall have a 3mm or 4mm acrylic front panel that is UV, weather, abrasion and impact resistant. The front panel shall be replaceable so that maintaining agencies have the option to supply their own sheeting and 3M 1170 Series Electrocut™ film for the Sign faces.

The Sign shall utilize ONLY 3M's 1170 Series Electrocut™ Film for the Sign legend and Sign background.

ONLY 3M 4090 Series ASTM Type IX (Type 9) Diamond Grade™ Sheeting, when specified, to meet minimum levels of the retro-reflectivity of the Sign face, as recommended by the MUTCD, if the Sign's LED's should fail.

The light transmission factor of the Sign panel must provide a letter to background ratio of a minimum of 4:1.

The Sign shall utilize impact resistant, match-grade component acrylics (in both 3mm and 4mm variants) with the above-specified 3M Electrocut™ to prevent out-gassing, bubbling, peeling, and cracking of the Sign face film, ensuring Sign face durability over the life of the Sign.

4.0 Mounting System (Rigid Back Brace Mounting)

The Sign must be supplied with rigid back brace mounting brackets on two positions on the back of the sign. The rigid back brace mounting brackets will be powder-coat painted to an exact match of the sign extrusions, and shall be in accordance with Military Standard MIL-C-24712. Finish will meet the requirements of ASTM D3359,

ASTM D3363, and ASTM D552. The rigid back brace mounting brackets used to affix the sign to the mast arm pole shall not extend more than 3/16" inch above the top horizontal surface, and the opposite end of that same bracket shall not extend more than 3/16" inch below the bottom horizontal surface of the sign, as viewed from the front. Approved brackets, such as Pelco AS-3004 or AS-3009 shall be used for this installation.

4.0.1 Underhang Mounting Configuration (includes span wire mounts)

The Sign must be supplied with two underhang mounting brackets on the top extrusion of the sign. The underhang mounting brackets will be powder-coat painted to an exact match of the sign extrusions, and shall be in accordance with Military Standard MIL-C-24712. Finish will meet the requirements of ASTM D3359, ASTM D3363, and ASTM D552. The underhang mounting brackets will be designed to connect to approved underhang hardware, such as Pelco SE-5146 or Pelco SE-5015 shall be used for this installation.

5.0 Environmental Specifications

The sign shall be designed and constructed to withstand 241 Km/h (150 mph) wind loads in conformance with the requirements of the AASHTO publication, "Standard Specifications for Structural Supports of Highway Signs, Luminaries and Traffic Signals," 4th Edition 2001.

The sign and power supply should be able to withstand and operate at temperature extremes of -22 deg F to +140 deg F.

Signs shall be tested and certified for the following environmental conditions:

Exclusion of Water Test

Strain Relief Test

Temperature Test

Dielectric Voltage-Withstand Test.

A representative sample of the product shall be tested in accordance with the Standards for Electric Signs (UL 48).

6.0 Luminance

The entire surface of the sign panel must be evenly illuminated with a minimum average brightness reading at the letters of 580 Lux and a variation of no more than 15% for any reading from the average (minimum of 50 readings). Each background reading measured must not vary by more than 10% (minimum of 50 readings) from the average of the background brightness readings. The light transmission factor of the sign panel must provide a letter to background ratio of a minimum of 4:1.

7.0 Light Source

The light source for the sign shall be LEDs (light emitting diodes). LEDs shall be mounted along both the top and bottom edges of the sign. The LEDs shall evenly illuminate a light panel that is the same dimensions of the sign face. The LEDs shall have a minimum rated lumen maintenance of 70% at 60,000 hours (an L70 of 60,000 hours). A maximum of four LEDs per square foot shall be used. NOTE: 50,000 hour LEDs (until degradation to L70) will not be submitted to the City for use, and OEM documentation shall be made available to prove out the manufacturer's use of a 60,000 LED at the City's request.

8.0 LED Single Output Switching Power Supply

LED Single Output Switching Power Supply shall be a fully-encapsulated, constant-current design built to withstand 300VAC surge input for 5 seconds, with inherent short circuit/over current/over voltage protection. The Power Supply shall be a UL 1310 Class 2 power unit, and will be housed in a fully isolated plastic case to prevent water intrusion.

The Sign's LED Single Output Switching Power Supply shall be rated for a 1450 mA (milli-Amps) Rated Current, a DC Voltage Range of 9-34V, a Power Rating of 59.5W, a Voltage Tolerance of +/- 5.0%, an AC Current of 0.7A/230VAC, and Voltage Range of 127-370VDC with 87% Operating Efficiency Rating, plus a working temperature of -30 to +70 degrees Celsius.

Safety Standards shall meet the following criteria: UL1310 Class 2, CAN/CSA C22.2 No. 223-M91 (for LPC-60-1750 only), IP67 approved; design refer to TUV EN60950-1, EN61347-2-13.

9.0 Energy Requirements

The average power consumption of the sign shall not exceed:

4ft = 30 Watts

6ft = 48 Watts

8ft = 55 Watts

10.0 Quality Assurance

Manufacturer shall have a demonstrable Quality Assurance Program in place, with proof of regular re-certification by an independent auditing agency. Reports shall be made available upon request.

11.0 Electrical Standards

The Sign shall be listed and approved to UL 48 Standards by a Nationally Recognized Testing Laboratory. The outside of the sign shall be marked with a certification mark for Electric Signs UL 48.

12.0 Product Guarantee

Sign must be guaranteed for a minimum of five years.

ALL CONDUCTORS AND CONDUIT ARE EXISTING UNLESS OTHERWISE INDICATED.

Diagram showing two horizontal segments, each labeled 29'.



ALL EQUIPMENT IS EXISTING UNLESS OTHERWISE INDICATED. E = EXISTING

● = NEW
(P) = REISSUE

\downarrow - NEW :

✓ = NEW SIGNAL POLE TO BE PLACED BACK IN EXISTING POLE LOCATION. SEE CONSTRUCTION NOTE 5.

EXISTING



1. ALL WORK MATERIALS AND EQUIPMENT SHALL

1 REMOVE AND SALVAGE EXISTING TYPE 'P' C

- _____ BID _____

[illegible]

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