

(LIGHTING INSTALLATION WITHIN 30 MILES OF MT. PALOMAR OBSERVATORY)

ROADWAY WIDTH (CURB TO CURB)	WATTAGE TYPE LUMENS MOUNTING HT.			
	58 feet or greater	135	LPS**	22500
Less than 58 feet	55	LPS**	8000	26 ft. ± 1 ft.

** LPS = Low Pressure Sodium

6. Electroliers: Unless otherwise specifically permitted by the Director of Transportation, luminaire standards shall be in accordance with the following:
 - A. Ornamental concrete type shall be considered as the standard street lighting pole type.
 - B. Ornamental concrete type or fiberglass type where a six foot mast arm is permitted by County standard.
 - C. Other street lighting pole types may be used if mutually agreed upon by the Director of Transportation and the serving utility.

7. All ownership, service, liability and maintenance shall be the responsibility of the serving utility company and shall be so defined in the Service Agreement.

8. Requests for street light layouts shall be submitted to the Transportation Department. Specific procedures and design criteria shall be in accordance with those established by the Transportation Department, the County Administrative Office and the serving utility.

9. Roadway lighting shall be required on all County of Riverside expressway classification roadways in accordance with County design criteria and the following:
 - A. At-grade intersections.
 - B. Grade separations of expressways with other public roadways, railways, pedestrian walkways, and with other public or private facilities.
 - C. Acceleration and deceleration ramps and lanes.
 - D. Auxiliary lanes.

The above-described requirements shall apply to County designated expressway classification roadways with access openings at spacing's not less than the intersection intervals designated in Standard No. 114 of this ordinance. Said roadway shall be provided with physical controlled access barriers such as fences and block walls. In the absence of such physical access barriers, or if the access intervals are less than that set forth in Standard 114, the roadway shall not be considered as an expressway for purposes of street lighting, and street lighting shall therefore be installed at 200 foot spacing in accordance with the requirements of the County's Transportation Department and this section.

23. SIGNALIZATION AND HIGHWAY LIGHTING

23.01 General: Signalization and Highway Lighting shall conform to the provisions of this section and shall be furnished, funded and installed by the developer or his agent. The Developer shall also be responsible to arrange for and fund all utility relocations required for the installation of the improvements.

Furnishing and installing traffic signal and highway lighting systems shall conform to the provisions in Section 86, "Signals and Lighting", of the State of California Department of Transportation Standard Specifications, the standards and specifications of County of Riverside Ordinance 461 and the requirements of this section.

These specifications are supplemented by the following County of Riverside publications, as appropriate, which are available from the office of the County of Riverside Traffic Engineer at 4080 Lemon Street, 8th Floor, Riverside, California; (951) 955-6800.

- A. Model 170 Controller Assembly specification
- B. Type 90 Controller Assembly specification
- C. LED green signal specification
- D. LED yellow signal specification
- E. LED pedestrian signal specification
- F. Approved LED vendor list

These Specifications may be modified by Special Provisions that are prepared for a particular construction project, provided that those Special Provisions have been reviewed and approved by the County of Riverside Transportation Department for construction. The project-specific Special Provisions shall include all specific requirements of the project, including any requirements of other public agencies which have an owning interest in the planned improvements.

23.02 Equipment Orders: All equipment shall be new.

23.03 Foundations: Foundations shall conform to the provisions in Section 51, "Concrete Structures," and Section 86-2.03, "Foundations", of the Standard Specifications and these Special Provisions. Portland cement concrete shall conform to Section 90-10, "Minor Concrete", of the Standard Specifications and shall be Class 3, except for pole foundations which shall be Class 2.

For traffic signal installations that designate the construction of a Type P controller cabinet, the cabinet foundation height dimension is modified to be 36 inches, with 18 inches being below and 18 inches being above sidewalk grade, or as directed by the Engineer. Controller foundation forms shall be rigid steel. All foundation concrete shall be vibrated to eliminate air pockets.

23.04 Standards, Steel Pedestals and Posts: Standards, steel pedestals, and posts shall conform to the provisions in Section 86 2.04, "Standards, Steel Pedestals, and Posts", of the Standard Specifications and these Specifications. Type 1A standards shall be spun aluminum, unless shown otherwise on the construction plans.

Poles installed at the near-right approach of each intersection shall be banded for the emergency installation of stop signs. Banding shall conform to the strap and saddle method per Standard Plan RS4.

Mast arms shall be installed in accordance with the "Signal Arm Connection Details" of the Standard Plans, unless specifically directed otherwise on the construction plans. Reference is made to the mast arm requirements of Section 23.25 "Internally Illuminated Street Name Signs" and County Standard 1200 "Traffic Signal Pole IISNS Straight Arm Mounting Detail".

Poles shall not be erected onto their foundations until signal and lighting service meters have been installed and energized by the serving electric utility company.

If required by the serving electric utility, and confirmed by the Engineer, State Certified Electric Workers shall be utilized for the installation of standards, steel pedestals and posts in accordance with State of California High Voltage Safety Orders.

- 23.05 Conduits:** Conduit shall conform to the provisions in Section 86-2.05, "Conduit", of the Standard Specifications and these Specifications. All conduits shall be hot dip galvanized rigid steel conduit conforming to requirements in UL Publication UL6. Minimum conduit size shall be 2" (53mm) unless otherwise specified.

Insulated bonding bushings will be required on all conduit. After conductors have been installed, the ends of conduits terminating in pull boxes and controller cabinets shall be sealed with an approved type of sealing compound. When a standard coupling cannot be used for coupling metal type conduit, the Contractor may request permission, prior to installation, on a case by case basis, to use a U.L. or E.T.L. listed threaded union coupling.

Conduit depth shall not exceed 60 inches (1.55m) below finish grade. At locations where conduit can not be installed by jacking or drilling as provided in Section 86-2.05C, "Installation", of the Standard Specifications, the Contractor may request permission, on a case by case basis, to install conduit by trenching. Jacking/Drilling shall be attempted a minimum of three times prior to requesting trenching installation.

- 23.06 Trenching Installation of Conduits:** Conduit shall be placed under existing paving in a trench 2" (53 mm) wider than the outside diameter of the conduit being installed. Trenching shall not exceed 6" (150 mm) in width. Conduit depth shall be at a minimum of 30" (765 mm) below finished grade, with a minimum 26" (660 mm) cover over the conduit.

All pavement shall be cut to a depth of 3" (78 mm) with an abrasive type saw or with a rock cutting excavator specifically designed for this purpose. Cuts shall be neat and true with no shatter outside the removal area. The conduit shall be placed in the bottom of the trench and the trench shall be backfilled with two sack slurry to finish grade. Prior to final paving, the slurry backfill shall be excavated to a depth of 0.30' (92 mm) below the final pavement surface. If so directed by the Engineer, the two sack slurry backfill shall be installed to a depth of 0.30' (92 mm) below the final pavement surface. The slurry shall be allowed to cure a minimum of two days prior to final paving with a commercial Type B asphalt concrete.

- 23.07 Pull Boxes:** Pull boxes shall conform to the provisions in Section 86-2.06, "Pull Boxes", of the Standard Specifications and these Specifications.

Pull boxes shall be installed at the locations shown on the plans and shall be spaced at no more than 500 foot (152 m) intervals. No mid-run pull boxes shall be installed. Pull boxes shall be placed with their tops flush with surrounding finished grade, except as required by the Engineer. Pull boxes

installed in unimproved areas shall be marked with Type L markers and be traffic bearing. All traffic bearing pull boxes shall be constructed with galvanized 2-bar welded frame. Unimproved areas are defined as locations not protected by concrete curb and gutter. All pull boxes shall be located behind the curb or at the locations shown on the plans. Pull box covers shall not be labeled "Caltrans", "Traffic Signal" should be on pull box lid.

- 23.08 Conductors and Wiring:** Conductors and wiring shall conform to the provisions in Section 86-2.08, "Conductors", and Section 86-2.09, "Wiring", of the Standard Specifications and these Specifications. Subparagraph 5 of the first paragraph of Section 86-2.09D, "Splicing and Terminations", of the Standard Specifications is deleted. Traffic signal conductors, multiple circuit conductors, signal cable and inter-connect cable shall not be spliced unless otherwise shown on the plans.

Nylon Jacketed Conductors shall not be used. Conductors with "Type THHN" insulation shall not be permitted. Conductors and wiring shall be installed in such a manner as minimize the need for splices. Conductors shall be spliced by the use of Type C or Type T splice as shown in the Standard Plans (ES-13A). Splices shall be insulated by "Method B". Minimum luminaire wiring shall be 10 gauge, including wiring within poles and mast arms. The color code for the luminaire common shall be white with a purple stripe.

Multiple circuit conductors shall conform to the provisions in Section 86-2.08B, "Multiple Circuit Conductors", of the Standard Specifications. Signal Cable conductors shall conform to the provisions in Section 86-2.08D "Signal Cable", of the Standard Specifications. Signal cable shall be installed continuously without splicing from the controller cabinet to each traffic signal pole. Emergency vehicle pre-emption cable shall be 3M model 138 or approved alternative.

- 23.09 Interconnection Conduit and Cable:** Furnishing and installing interconnect conduit and cable shall conform to the provisions in Section 86, "Signals, Lighting and Electrical Systems" of the Standard Specifications and these Specifications.

New Signal Interconnect Cable (SIC) shall be six pairs, #20 AWG, and shall be in accordance with the provisions in Section 86-2.08E, "Signal Interconnect Cable" of the Standard Specifications and be suitable for underground installation. All SIC conductors shall be soldered to terminal lugs using the hot iron method and shall be connected to the appropriate terminal block inside the controller cabinet. Contractor shall pull cable, without splices, in new and existing conduit. Contractor work within controller cabinets shall be of industry standard and subject to approval by the Engineer.

Contractor shall modify new and existing controller cabinets as required to provide a fully functional signal communication system. Coordination hardware and software shall be furnished, installed as required and made operational to provide a fully functional communication system, including but not limited to:

- A. Master Controller Unit
- B. Terminal Blocks, Cables, Wiring
- C. Internal and External Modems
- D. Iso-Relays
- E. Field Master Controller software

- 23.10 Testing:** Testing shall conform to the provisions of Section 86-2.14, "Testing" of the Standard Specifications and these Specifications.

The supplied master controller unit shall be delivered for testing, as directed by the Engineer to County of Riverside, Transportation Department Highway Operations, 2950 Washington Street, Riverside, California 92504. The Contractor shall allow a minimum of 15 working days for operational testing and adjustment, with the added provisions that if the equipment should fail, an additional 15-day period shall be allowed for testing. The cost for transportation and/or shipping of the controller unit to and from the County facility shall be borne by the subdivider/contractor and no additional compensation shall be allowed therefore.

23.11 Bonding and Grounding: Bonding and grounding shall conform to the provisions in Section 86-2.10, "Bonding and Grounding", of the Standard Specifications and these Specifications.

Equipment grounding jumpers shall be installed for all conduits. Grounding jumper shall be attached by a 3/16 inch (4.5 mm) 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.

23.12 Service: Service shall conform to the provisions in Section 86-2.11, "Service", of the Standard Specifications and these Specifications.

Service equipment enclosure shall be Type III-CF, as shown on the Standard Plans ES-2F, and shall conform to the following:

- A. 120 / 240 volt, 2 meter service unless otherwise shown on the plans.
- B. Circuit breakers required:
 - 1. 2 - 100 Amp 2 pole (signal main, lighting main)
 - 2. 1 - 30 Amp 1 pole (luminaires)
 - 3. 1 - 20 Amp 1 pole (illuminated street name signs)
 - 4. 1 - 50 Amp 1 pole (signals)
 - 5. 1 - 15 Amp 1 pole (luminaire photoelectric control)
 - 6. 1 - 15 Amp 1 pole (street name sign photoelectric control)
 - 7. 1 - 20 Amp 1 pole (for each beacon, if applicable)
- C. Cabinet shall be fabricated from aluminum sheeting and finish shall be anodic coating in accordance with Section 86-3.04A "Cabinet Construction".
- D. Circuit breakers shall be marked with identifying labels for each circuit breaker.
- E. Type V photoelectric control contactor and test switch assembly shall be installed in the service cabinet. Photoelectric control contactors shall be as follows:
 - 1. Luminaires - 60 amp mercury
 - 2. Street name signs - 30 amp mercury
- F. Direct burial service conductors will not be approved.
- G. The service equipment enclosure shall be separated from the controller by a minimum of 15 feet, and separated from all utility poles by a minimum of 10 feet (4.5m), unless otherwise directed by the Engineer.

The Developer shall be responsible for contacting the power company, obtaining an approved electrical service point, arranging and providing for the electrical service connection, ensuring that adequate notice is provided to the serving electric company in advance of need, coordinating with the County of Riverside Transportation Department for the establishment of electrical service accounts, and paying all fees required.

23.13 Service Identification: The service equipment enclosure shall provide the address of the intersection as shown on the approved plan. Address location shall be on the front upper panel. Lettering markings shall be black in color, with a two inch (53 mm) minimum size in block letter form. Markings shall be applied to a brushed aluminum, stainless steel, or other non-corroding metallic plate, as approved by the Engineer. Plate shall be white in color. All paint and lettering markings shall conform in all respects to Federal Specification TT-E-489, latest revision, Class A, Air Drying. Said plate shall be affixed in a permanent manner by riveting or with stainless steel bolts and nuts. Bolts shall be peened after tightening. All materials used for affixing address plate shall be non-corroding. Alternate materials and methods must be approved by the Engineer prior to implementation.

23.14 Type 90 Controller Assembly: This section shall apply to those projects that specify the installation of a Type 90 Controller Assembly. Type 90 Controller Assembly shall conform to the provisions in Section 86-3.02, "Type 90 Controller Assembly", of the Standard Specifications and these Specifications.

Type 90 Controller Assemblies shall be furnished and installed as shown on the construction plans. Said equipment shall be US Traffic Type 390-CJ, or approved equivalent, in accordance with Riverside County specifications. Controller cabinets shall be Type P, manufactured from aluminum, with anodic coating finish.

Traffic signal controller assemblies shall be furnished with 3M Opticom emergency vehicle pre-emption system mounting racks, internal and external 1200 baud modems, shelf mounted 2 channel detectors with delay and extension capabilities, and all equipment necessary to provide a complete control system. The traffic signal controller assembly shall be furnished to provide all detection and operation features indicated on the construction plans.

Local master controller units shall be furnished and installed as shown on the construction plans. Master controller units shall be US Traffic Model TMM-500, or approved alternative.

All necessary interconnect hardware shall be furnished and installed to provide full 2-way communications for the traffic signal system. The control equipment shall be installed in a complete, operational manner, in order to enable the master controller to exchange system operation and program data with the local controllers. Said equipment shall include, but shall not be limited to:

- A. TMM-500 master controllers, as shown on the construction plans.
- B. Model 202 internal modems
- C. Model 212 "smart" modems
- D. Terminal blocks, cables and wiring
- E. Communication and Special Function Assemblies

The Contractor shall arrange to have a signal technician qualified to work on the controller and employed by the controller manufacturer or his representative, present at the time the equipment is turned on. The signal controller conflict monitoring unit shall be tested in the field before "Turn On".

23.15 Type 170 Controller Assembly: This section shall apply to those projects that specify the installation of a Model 170 Controller Assembly. The controller unit, Model 170 and its cabinet, Model 332, shall be in accordance to the provisions of Section No. 86 "Signals, Lighting and Electrical Systems" of the latest edition of the State of California Standard Specifications, The County's Controller Specifications entitled "Model 170 Controller Assembly Specifications", and these Specifications.

23.16 The Contractor shall furnish and install the controller unit, Model 170, its cabinet, Model 332, and all ancillary equipment. The Contractor shall construct the controller cabinet foundations (including furnishing and installing anchor bolts), and shall install the controller cabinets on said foundations, and make all field wiring connections to the terminal blocks in the controller cabinets. The contractor shall arrange to have a signal technician qualified to work on the controller and employed by the controller manufacturer or it's representative, present at the time the equipment is turned on. As a minimum, the contractor shall furnish the following components:

	Description	Model
A.	Cabinet	332
B.	Controller Unit	170
C.	Switch Pack	200
D.	DC Isolator-2 Channel	242
E.	Flasher Unit Modules	204
F.	Conflict Monitor Unit	210
G.	Loop Detector-2 Channel	222
H.	412-C Program Module	412
I.	MODEM Module	400

23.17 Signal Faces and Signal Heads: Signal faces and signal heads and auxiliary equipment as shown on the plans, and the installation thereof shall conform to the provisions in Section 86-4.01 "Vehicle Signal Faces", Section 86-4.04, ""Backplates", and Section 86-4.08 "Signal Mounting Assemblies", of the Standard Specifications and these Special Provisions.

Red, yellow and Green signal and beacon indications shall be LED modules in accordance with the Standard Specifications and these Special provisions. All LED modules shall be furnished by the Contractor. Red LED Ball and Red Arrow shall be 12 inches (300 mm) and shall conform to the provisions in Sections 86-4.02, 86-4.02A, B, C and D, "Light Emitting Diode Signal Module".

Yellow and Green LED Ball or Arrow indications shall be 12 inch (300 mm) "Type 1" modules and shall conform to the provisions in the County of Riverside Transportation Department specification entitled "Specifications - Light Emitting Diode (LED) Signal Modules (Yellow or Green)". See the County publication entitled "Currently Qualified LED Modules by Vendor" for accepted vendor. The contractor shall furnish the engineer with the manufacturer's standard written warranty pertaining to defects in materials and workmanship for the LED modules. All warranty documentation shall be given to the Engineer prior to random sample testing.

All lenses shall be 12 inches (300 mm) in diameter. Arrow lenses shall be provided with integrated arrow masking. Visors shall be in accordance with Section 86-4.01D "Visors" and shall be the "full circle" type. Signal section housing, backplates and visors shall be metal type. Backplates shall be

louvered. Top opening of signal heads shall be sealed with neoprene gaskets.

- 23.18 Pedestrian Signal Faces:** Pedestrian signals shall conform to the provisions in Section 86-4.06, "Pedestrian Signal Faces", of the Standard Specifications and these Special Provisions. Pedestrian Signal Face (Combination Signals) shall conform to the provisions in the County of Riverside Transportation Department specifications entitled "Specifications – Light Emitting Diode (LED) Signal Modules (Combination Pedestrian Signal)", which is available from the Traffic Engineering Section of the Transportation Department upon request.

Pedestrian Signal Mounting Assemblies and Pedestrian Signal Housings shall be made from the same manufacturer and the section assemblies shall be uniform in appearance and alignment. All equipment shall be new and purchased by the Contractor in a single purchase for this project. Surplus equipment, which may be in the contractor's possession, will not be allowed, unless specifically allowed by the Engineer.

The contractor shall furnish the engineer with the manufacturer's standard written warranty pertaining to defects in materials and workmanship for the LED modules. All warranty documentation shall be given to the Engineer prior to random sample testing.

Pedestrian signals shall be provided with a polycarbonate eggcrate or Z-crate screen (Type 2).

LED modules for pedestrian signals shall be furnished by the contractor from the a vendor that is listed on the State of California Department of Transportation or County of Riverside Transportation Departments list of acceptable vendors and equipment.

- 23.19 Pedestrian Push Buttons:** Pedestrian and bicycle push buttons shall conform to the provisions in Section 86-5.02, "Pedestrian Push Buttons", of the Standard Specifications and these Special Provisions. Attention is directed to State of California Standard Plan ES-5C.

Pedestrian push buttons shall be Type B.

Pedestrian push button housings shall be die-cast or permanent mold cast aluminum.

Pedestrian push button signs shall be porcelain enameled metal.

Paragraph 3. of Section 86-5.02 "Pedestrian Push Buttons", of the Standard Specifications is deleted.

The pedestrian push button shall be ADA compliant, constructed of high density thermoplastic and utilize solid state Piezo switch technology. Button shall be yellow, outer body color shall be black.

Pedestrian push button shall be Polara model MPBP-BY, Campbell Co model 4EVR-700P or approved equal..

- 23.20 Equestrian Push Buttons:** Equestrian push buttons shall be installed where specified on the construction plans. Equestrian push buttons shall be Type B, modified with industrial mushroom shaped buttons, 1-1/2 inches to 2 inches (41mm to 53 mm) in diameter, added. Fit and finish shall be of original equipment quality.

- 23.21 Programmed Visibility Traffic Signal Heads:** Programmed visibility traffic signal heads shall conform to the provisions in Section 86-4.05, "Programmed Visibility Vehicle Signal Faces", of the Standard Specifications and these Specifications.

23.22 Detectors: Detectors shall conform to the provisions in Section 86-5, "Detectors", of the Standard Specifications and these Specifications.

All sensor units shall have delay timers adjustable from zero to a minimum of 30 seconds and extension timers adjustable from zero to a minimum of 7 seconds. Delay timers shall delay calls only during display of the associated red or yellow indications. If a vehicle departs the area of detection prior to expiration of the assigned delay period, the timer shall reset and no call shall be placed upon the controller. During display of the associated green indication, detectors shall operate in the present mode and calls shall not be delayed.

Inductive loop detectors shall be furnished and installed, in accordance with the detection specified on the plans and these Specifications. Loop wire shall be Type 2. Loop sealant shall be the elastomeric sealant type, unless otherwise directed by the Engineer. Loop conductors and sealant shall be installed on the same day the loop slots are cut. Loop detector lead in cable shall be Type B. Detector curb terminations shall be in accordance with Standard Plans ES-5D, and shall be Type A. Detectors shall be Type E unless otherwise shown on the construction plan or as directed by the Engineer. The conduit shall extend 18 inches (460 mm) into the paved roadway. All loops shall be tested sequentially by three methods: by megger (measured by megaohms), by resistance (in ohms), by inductance (measured in microhenries).

23.23 Preformed Inductive Loops: Preformed inductive loops, if specified on the construction plans, shall be Never-Fail Loop Systems, or approved alternative, with Model F frame and shall be asphalt-rubber filled pre-dimensioned loop detectors. The Contractor shall adhere to the manufacturer's specifications for the equipment and installation requirements. The Contractor shall arrange for a knowledgeable representative of the manufacturer to be at the construction site to provide direction on the installation of the loops.

Each detector loop shall consist of four turns of #16 wire with Type TFFN insulation. The loop wires shall be encased in 3/8 inch (10 cm) polypropylene conduit in the head of the loop or an approved alternative, to prevent the entrance of water and the movement of wires within the conduit. To insure long term performance, the loops shall be provided with sealed expansion joints. The loop wires from the preformed loop to the adjacent pullbox or detector handhole shall be twisted together into a pair (at least two turns per foot) and encased in polypropylene conduit and /or 2250 P.S.I. (15,500 kPa) hydraulic hose between the preformed loop and the adjacent pullbox or detector handhole. The lead-in conduit shall be completely injected with hot asphalt sealant, or approved alternative, to prevent the entrance of water at the pullbox or handhole end.

A groove shall be cut into the existing pavement in conformance with the manufacturer's specifications for Model F installations. The frames and home-runs shall be placed into the cuts. The cuts shall be filled with elastomeric slot sealant conforming to the manufacturer's recommendations.

23.24 Luminaires: Luminaires shall conform to the provisions in Section 86-6, "Lighting", of the Standard Specifications and these Specifications.

Luminaires shall be of the cutoff type and shall be 200 or 250 Watt High Pressure Sodium Vapor as shown on the construction plans. The fixtures shall be constructed with flat lenses, integral ballasts, and detachable power unit assemblies. The power unit assemblies shall contain the ballast, starter board, capacitors, and a heavy duty terminal block. Each luminaire shall be furnished without the photoelectric unit receptacle. If the luminaire housing is provided with a hole for the receptacle, the hole shall be closed in a weatherproof manner.

23.25 Internally Illuminated Street Name Signs: Internally illuminated street name signs shall conform to the provisions in Sections 86-6.06, "Sign Lighting Fixtures – Incandescent", and 86-6.065, "Internally Illuminated Street Name Signs", of the Standard Specifications and these Specifications.

The third paragraph of Subsection 86-6.065, "Internally Illuminated Street Name Signs" of the Standard Specifications is amended to read:

The sign fixture shall be designed and constructed to prevent deformation or failure when subjected to 100 mph (161 km/h) wind loads, as set forth in the AASHTO publication, "Standard Specifications for Structural Supports of Highway Signs, Luminaires, and Traffic Signals", and amendments thereto. The sign panels shall not deform or warp under an 100 mph (161 km/h) wind loading. A certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance" shall be submitted by the manufacturer with each lot of internally illuminated street name signs.

Subsection 86-6.065, "Internally Illuminated Street Name Signs" of the Standard Specifications is amended with the addition of the following between the third and fourth paragraphs:

The signs shall be attached to a 10 foot (3.05 m) galvanized steel mast-arm extending from the shaft of the pole above and parallel to the signal mast arm. Each 10 foot (3.05 m) arm shall have 3 mounting tabs welded to it. The tabs shall be spaced to allow installation of either an 8 feet (2.44 m) or 6 feet (1.83 m) sign. A set bolt shall be used to assure the mast arm will not change position after it is installed and aligned. Attention is directed to the County Standard entitled "Traffic Signal Pole ISNS Straight Arm Mounting Detail".

Subsection 86-6.065, "Internally Illuminated Street Name Signs" of the Standard Specifications, the fifth paragraph is hereby amended to read:

Signs shall be Type A.

Subsection 86-6.065, "Internally Illuminated Street Name Signs" of the Standard Specifications, item number two "Reflectors" of the fifth paragraph is hereby deleted.

Subsection 86-6.065, "Internally Illuminated Street Name Signs" of the Standard Specifications, paragraph number one of item number three "Sign Panels" of the fifth paragraph is hereby deleted and replaced with the following:

The sign panels shall be slide-mounted or rigid mounted in a frame with white translucent diamond grade reflective legend, symbol, arrows, and border on each face, the background shall be green.

Subsection 86-6.065, "Internally Illuminated Street Name Signs" of the Standard Specifications, item number twelve, "Mounting Assemblies" of the fifth paragraph, is hereby amended with the addition of the following between the first and second paragraphs:

The mounting assembly shall be designed and constructed to prevent failure when subjected to 100 mph (161 km/h) wind loads, as set forth in the AASHTO publication, "Standard Specifications for Structural Supports of Highway Signs, Luminaires, and Traffic Signal" and amendments thereto.

Support brackets shall be 3/8" X 1.5" (9.5 mm X 38 mm) minimum.

23.26 Photoelectric Controls: Photoelectric controls shall conform to the provisions in Section 86-6.07, "Photoelectric Controls", of the Standard Specifications and these Specifications.

Photoelectric controls shall be a dual Type V for luminaires and internally illuminated street name signs conforming to the detail on the plans. Photoelectric units shall be the delay type.

23.27 Traffic Signal Field Tests: Field Tests shall conform to the provisions in Section 86-2.14, "Testing", of the Standard Specifications.

23.28 Maintain Existing and Temporary Electrical Systems: Maintaining existing and temporary electrical systems shall conform to the provisions in Section 86-1.06 "Maintaining Existing and Temporary Electrical Systems" of the Standard Specifications.

The Contractor shall request prior authorization from the Engineer for each traffic signal system shutdown. Traffic signal system shutdowns shall be limited to periods between the hours of 9:00 A.M. and 3:00 P.M. Traffic signal system shutdown shall be coordinated through the Engineer, and shall be kept to a minimum, as determined by the Engineer. The Contractor shall place "Stop Ahead" and "Stop" signs to direct vehicle and pedestrian traffic through the intersection during traffic signal shutdown. Temporary "Stop Ahead" and "Stop" signs shall be either covered or removed when the system is turned on. "Stop Ahead" and "Stop" signs shall be furnished by the Contractor and shall conform to the provisions in Section 12-3.06, "Construction Area Signs" of the Standard Specifications. Minimum size of "Stop" signs shall be 48 inches. One "Stop Ahead" sign and one "Stop" sign shall be placed for each direction of traffic. For two lanes approaches, two "Stop" signs shall be placed. Location of the signs shall be as directed by the Engineer. "Stop Ahead" signs shall be supplemented with portable flashing beacons, which shall meet the requirements of Section 5-06.3 of the State of California Traffic Manual.

The Contractor may request authorization from the Engineer to use temporary overhead conductors for temporary traffic signal operation.

During periods of traffic signals or beacon shutdowns, existing flashing beacons shall be supplemented with portable flashing beacons, which shall meet the requirements of section 5-06.3 of the State of California traffic manual.

23.29 Emergency Vehicle Pre-Emption: A complete, functioning 3M Opticom (TM) emergency vehicle pre-emption system, or approved equal, shall be furnished and installed for each project location as indicated on the construction plans.

At locations where emergency vehicle pre-emption detectors are not to be installed, emergency vehicle pre-emption cable shall be installed for future use as follows:

- A. Emergency vehicle pre-emption (EVP) cable shall be installed, without splices, between the controller cabinet and each mast arm traffic signal pole.
- B. The 3M Model 138 EVP cable shall be connected to the EVP rack terminals within the controller cabinet.
- C. Each mast arm detector mounting shall be drilled and tapped in its ultimate location. In lieu of the detector, an approved water tight UL listed electrical box shall be installed. The EVP cable shall be installed to terminate within the mast arm mounted electrical box. Excess cable shall be coiled within the electrical box sufficient for future installation of the EVP system.
- D. Detectors and phase selectors shall not be furnished.

At locations where emergency vehicle pre-emption detectors are to be installed, the optical detector shall be mounted on the indicated signal mast arm by use of an approved mast arm clamp as shown on the plans. The detector shall not be mounted on the signal head. Emergency vehicle pre-emption equipment to be furnished and installed or provided shall include:

- A. 3M model 711, 721, and 722 optical detectors for each approach, as shown on the plans.
- B. 3M model 762 rack-mounted phase selectors in each controller assembly, sufficient for 8 phase operation.
- C. 3M model 138 detector cable.
- D. One spare 3M model 762 phase selector.
- E. One spare 3M model 721 optical detector.

The system shall be designed to prevent simultaneous pre-emption by two or more emergency vehicles on separate approaches to the intersection. Emergency vehicle pre-emption sequence of operation shall be approved by the County Traffic Engineer prior to timing and turn-on of each respective traffic signal. It shall be the responsibility of the Contractor that a knowledgeable representative, for the manufacturer of the emergency vehicle pre-emption equipment, be present for the first day of the traffic signal and lighting function test to insure proper installation and functioning of the equipment. It shall be the responsibility of the Contractor that the emergency pre-emption equipment shall be furnished and installed in a complete, operative manner, as intended by the manufacturer, and these Specifications. The Contractor shall arrange for, and pay the cost of, the services of the controller manufacturer to perform any controller modifications required for the installation, or operation, of the emergency vehicle pre-emption equipment.

23.30 Encroachment Permits: It shall be the responsibility of the Contractor to obtain all required Encroachment Permits and other required permits prior to the start of work.

24. ROADWAY LANDSCAPING

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24.1 GENERAL

24.11 Authority

The following standards and guidelines have been developed and approved for the administration of landscape encroachments as such encroachments relate to roadway landscaping (County Ordinance No. 499 and Resolution No. 89-44)

24.12 Goals and Objectives

The standards and guidelines contained herein have been developed to establish a minimum standard of quality associated with landscaping within the public rights-of-way and common open space areas. It is the goal of the County to facilitate the implementation of landscape improvements that are adequately designed, properly installed, and can be efficiently maintained. The following objectives should be incorporated into proposed landscapes in County rights-of-way:

- a) Landscaped improvements shall not jeopardize the public health, safety, and welfare, or interfere with the dedicated uses within the public rights-of-way.
- b) Landscaping shall be the product of functional design, aesthetic and public safety enhancements with a regard for maintenance.
- c) Landscapes shall utilize water conservation measures and techniques. Hard scape treatments shall be considered in combination with planting. Plants shall generally have low water requirements. Irrigation systems shall be designed for the efficient application of water to the plants.
- d) The facilitation of plant establishment, continued plant growth, vigor, health, and maintenance shall be part of the design process.
- e) Preservation of natural landscape resources, such as specimen or endangered plants, water features, land forms, etc., shall be encouraged.

24.13 Landscape Improvement Requirements

- a) Any landscape improvements, in conjunction with street improvements, industrial, commercial, or residential developments, involving grading, Hardscape construction (concrete walks, etc.), installation of walls, fences, lighting, planting, or irrigation systems, within the County of Riverside road rights-of-way, must be shown on plans and submitted for review by the Transportation Department.
- b) Plan submittal is not required for individual single-family residential landscaping, unless the proposed landscape work includes berm construction, excavations (other than for sprinkler lines or planting), hardscapes, walls fences, lighting, rockeries, signage, or other obstructions within the right-of-way.
- c) Encroachment permits are required for any work within the rights-of-way that requires a plan submittal.
- d) All landscape work is required to meet the standards set forth in this document.
- e) Landscape plans shall be prepared by a landscape architect registered in California.

24.14 Landscape Maintenance

- a) Prior to the Transportation Department approval of any landscape plans, responsibility for the continued maintenance of the landscaping must be established. Maintenance responsibility shall be established through annexation into Landscaping and Lighting Maintenance District No. 89-1-Consolidated (L&LMD 89-1-C) or acceptable public entity. For commercial and industrial projects, either enters into a Landscaping Maintenance Agreement approved by the Department of Transportation or annexation in L & LMD No. 89-1-C. Maintenance shall pertain to all areas within a development as approved on the landscaping plans, and shall include all landscape

elements in the rights-of-way, not just planting and irrigation with the exception of entry monuments. The application form for annexation into L & LMD 89-1-C and the Agreement for commercial and industrial projects shall be obtained from the Transportation Department for execution and return.

- b) Landscape areas shall be designed with regard to the maintenance mechanism utilized. Areas maintained by separate entities shall be designed so maintenance responsibilities do not overlap. Installation of a 6-inch-wide concrete header may be required to clearly indicate maintenance boundaries.
- c) Parkways that have sidewalks that meander through the right-of-way area, dedicated landscape parkway easements or common areas contiguous to public rights-of-way shall be maintained by one maintenance entity for the entire area.

24.15 Utility Location and Obstructions Below Ground

Landscape designs shall consider all existing or proposed utilities, including but not limited to gas, sewer, water, storm drains, and electrical. The locations of all known utilities shall be shown on the landscape plans. Contractor shall be responsible for having the location of all utility lines and structures verified by Underground Services Alert, or other utility locating service, so that proper precautions may be taken to avoid disruption of or damage to such improvements.

24.16 Sight Distance

The sight distance is the distance a driver approaching an intersection or leaving a driveway should be able to see down the street for oncoming traffic. The area between the sight line and the curb is a restricted use area. No trees, plants, walls, or other obstructions higher than 30 inches shall be placed in these restricted use areas (see Standard 1101).

24.17 Quality and Standards of Materials, Installation, and Guarantees

- a) All landscape materials and installation procedures shall meet the minimum requirements as set forth in the Standard Specifications for Public Works Construction, latest edition, and the standards and specifications contained in this document. Unacceptable materials or improper installation procedures shall be cause for rejection of work.
- b) Materials shall be selected from County of Riverside approved plant material lists.
- c) Plant material shall be guaranteed for 90 days from time of landscape acceptance by the County. Trees shall be guaranteed for one year from acceptance date. Irrigation systems shall be guaranteed against material defects or improper installation methods for one year from acceptance date. Guarantees shall be in the form of bonds or cash deposits combined with written agreements.

24.18 Plant Material

Plants shall be typical of their species or variety, have normal habits of growth, be healthy, vigorous, well rooted, but not rootbound or have circling roots.

- a) Plants shall be free of disease, insects or pests, including their eggs or larvae.
- b) Plants with spines, thorns, or poisonous leaves, seeds, or berries, etc., are prohibited in areas adjacent to high pedestrian traffic. Plant selection shall be appropriate for the specific geographic location and climate zone in which they will be planted. (See Attachment A, Climate Map. Also see Riverside County Guide to Trees, Shrubs, and Ground covers, prepared by the County of Riverside Planning Department.)
- c) In order to comply with the county of Riverside objectives for attractive, low maintenance landscapes, the following characteristics shall be considered in plant selection:
 - 1. Appropriate growth habit and mature size for the intended planting area to avoid excess maintenance, such as frequent pruning or shearing to control growth.

2. Drought tolerance, to minimize water usage.
 3. Fire resistance in natural fire hazard areas and fuel modification zones.
 4. Deep rooting properties.
 5. Hydrozone based design, grouping plants with similar water needs and other horticultural requirements.
- d) Trees shall be selected from the County of Riverside Transportation Department approved tree list (see Attachment B.) Trees shall have straight, undamaged trunks, be well branched, well rooted without being rootbound, and have no circling roots. Any old tree wounds shall be well healed or callused over. Minimum tree size shall be 15 gallons. Trees shall be installed per County of Riverside tree staking detail (Standard 1102).

24.2 EROSION CONTROL AND LANDSCAPE GRADING PLANS

24.21 Erosion and Sediment Control

Landscape designs shall comply with the County of Riverside Building and Safety Department's Grading Policy for Erosion Control Landscape Plans, Ordinance No. 457.

24.22 Landscape Grading

- a) Any grading in landscape areas shall be as shown on the grading plan.
- b) Parkway and common areas shall not drain onto private property.
- c) Medians shall be graded per County of Riverside Ordinance No. 461.
- d) Toe of slope shall not extend into any line of site restricted use area (see Standard 821).
- e) Hardscape grades shall be per County of Riverside codes and requirements. Desirable grades for landscape planting areas are indicated below.

Landscape	Minimum Slope	Maximum Slope	Comments
Shrub and Groundcover	2% (50H:1V)	50% (2H:1V)	If slope is 5:1 or steeper, the toe of slope shall be 1 foot away from any hardscape or wall.
Turf	2% (50H:1V)	25% (4h:1V)	Toe of slope may extend to the hardscape.

- f) No grading shall be permitted within the drip line of existing trees indicated to remain (see Section 24.83).

24.3 PARKWAY LANDSCAPING

24.31 Trees

- a) Tree selection and design may be reviewed in relation to the species selected and the space in which it is to be planted. Factors to be considered are planting area size, proximity to utilities

(above or below ground), growth rate and mature tree size, tree spacing, rooting characteristics, horticultural requirements, and maintenance needs.

- b) Trees located within the parkway shall be a minimum of 4 feet from the sidewalk edge, 3 feet from the sidewalk edge with a root barrier or as indicated in Standard 1102. In parkways without sidewalks, trees shall be planted a minimum of 9 feet from the face of curb. These conditions may vary for specific plans or special conditions approved by the Director of Transportation.
- c) The following standards shall apply in tree selection and location. Trees shall be:
 - 1. Planted on private property, a minimum of 1 foot from the right-of-way line on local and collector streets. The exception shall be along the sides and backs of residential properties where a wall exists or is proposed. For all other street sections, trees shall be planted within the rights-of-way if setback requirements can be met.
 - 2. A minimum of 10 feet from residential driveways and 15 feet from commercial driveways (see Standard 1101).
 - 3. A minimum of 10 feet from corner cutbacks for local and collector streets, and 20 feet from corner cutbacks for secondary, major and arterial streets (see Standard 1101).
 - 4. A minimum of 3 feet from fences or the face of walls, either existing or proposed, and a minimum of 2 feet away from any wall footings.
 - 5. A minimum of 6 feet from any underground utility line or vault, or per the particular utility, which may have further restrictions.
 - 6. A minimum of 20 feet from street lights and 10 feet from traffic or street signs.

24.32 Shrubs and Ground covers

- a) The minimum distance shrubs shall be planted from hardscape/sidewalk or turf edge shall be equal to half the mature shrub's diameter. The minimum distance shrubs shall be planted from curbs shall be equal to the mature shrubs diameter. Groundcover may be planted up to the sidewalk or curb, depending on groundcover and trimming needs and suitability.
- b) Within the road right-of-way, no shrubs or ground covers with a normal growth habit over 30 inches in height may be planted within or encroach into any sight distance restricted use areas (see Standard 821).

24.33 Lawn

- a) Lawn areas may be hydro seeded or sodded.
- b) Sod shall be free from fungus, disease and insects and be in healthy condition. Seed shall be certified, show percent purity, percent germination and shall be weed free.
- c) Lawn areas shall be a minimum of 30 inches wide.
- d) Trees planted in turf areas shall have a plastic guard installed around the tree base. Whenever possible, trees should be located in shrub areas.
- e) The turf area must be at least 6 feet wide for a tree to be planted in the turf area. No tree shall be planted closer than 3 feet to the turf edge.

24.34 Sidewalks

- a) Sidewalks shall be designed per Ordinance 461.
- b) Meandering sidewalks, that do not go to the curb, shall meander no closer than 3 feet to the face of the curb.

- c) Intersections with other walkways shall be designed to be located within one maintenance entity area. At the line where the walkway crosses into another maintenance area, an expansion joint shall be installed in the walkway (see Standard 400).

24.35 Walls/Fences

- a) Walls or fences shall be designed to be located totally within the maintenance area that will maintain the wall or fence. No private individual residential walls or fences shall be located within the County right-of-way.
- b) Walls shall be screened with vines to discourage graffiti. Vines shall be self-clinging or secured to a support. Vines should eventually provide a minimum wall screen of 80 percent.

24.36 Trails Stabilizer

GENERAL

- a) SCOPE OF WORK

Decomposed granite or crushed 3/8" or 1/4" minus aggregate paving with Stabilizer binder additive.

- b) SYSTEM DESCRIPTION

Decomposed granite or crushed 3/8" or 1/4" minus aggregate paving with Stabilizer binder additive and SportGride® fibers for strength. Fibers are an optional additive, best when extra load bearing strength is needed.

- c) SUBMITTALS

Products; Five lb. sample and sieve analysis for grading of decomposed granite or crushed 3/8" or 1/4" minus aggregate.

- d) TESTS

Perform gradation of decomposed granite material or 3/8" or 1/4" minus crushed aggregate in accordance with ASTM C 136 – Method for Sieve Analysis for Fine and Course.

- e) MOCK-UPS

Install 4 ft. wide x 10ft. long mock-up of decomposed granite or 3/8" or 1/4" minus crushed aggregate paving with Stabilizer additive at location as directed by owner's representative.

- f) ENVIRONMENTAL CONDITIONS

Do not install decomposed granite or crushed 3/8" or 1/4" minus aggregate paving during rainy conditions.

- g) QUALITY ASSURANCE

Installer provide evidence to indicate successful experience in providing decomposed granite or crushed 3/8" or 1/4" minus aggregate paving containing Stabilizer binder additive.

PRODUCTS

- a) DECOMPOSED GRANITE OR 3/8" OR 1/4" CRUSHED AGGREGATE SCREENINGS.

Crushed stone sieve analysis percentage of weight passing square mesh sieve AASHTO T11-82 and T27-82

1/4" MINUS AGGREGATE GRADATION

Sieve Designation	Range of % Passing
3/8"	100
No. 4	95-100
No. 8	75-80
No. 16	55-65
No. 30	40-50
No. 50	25-35
No. 100	20-25
No. 200	5-15.

Acceptable local supplier – list to be provided.

b) **STABILIZER BINDER**

Patented, non-toxic, organic binder that is a colorless and odorless concentrated powder that binds decomposed granite or crushed 3/8" or 1/4" minus aggregate together to produce a firm surface.

Synthetic fiber reinforcement may be used (optional).

EXECUTION

a). **BLENDING STABILIZER**

Blend 12-16 lbs. of Stabilizer per ton of decomposed granite or crushed 3/8" or 1/4" minus aggregate screenings. It is critical that Stabilizer be thoroughly and uniformly mixed throughout decomposed granite or crushed 1/4" or 3/8" minus aggregate screenings.

b). **BLENDING SPORTSGRIDS® FIBERS (OPTIONAL, only if recommended)**

Blend 3 to 5 pounds of Sportsgrids® fibers per ton of decomposed granite or crushed 3/8" or 1/4" minus aggregate screenings.

c). **PLACEMENT OF DECOMPOSED GRANITE SCREENINGS OR CRUSHED 3/8" OR 1/4" MINUS AGGREGATE SCREENINGS**

Upon thorough moisture penetration, compact aggregate screenings to 95% relative compaction by compaction equipment such as; double drum roller (2-4 ton) or single drum roller (1000 lbs.) vibratory plate tamp. Do not begin compaction for 6 hours after placement and up to 48 hours.

Take care in compacting decomposed granite or crushed 3/8" or 1/4" minus aggregate screenings when adjacent planting and irrigation systems.

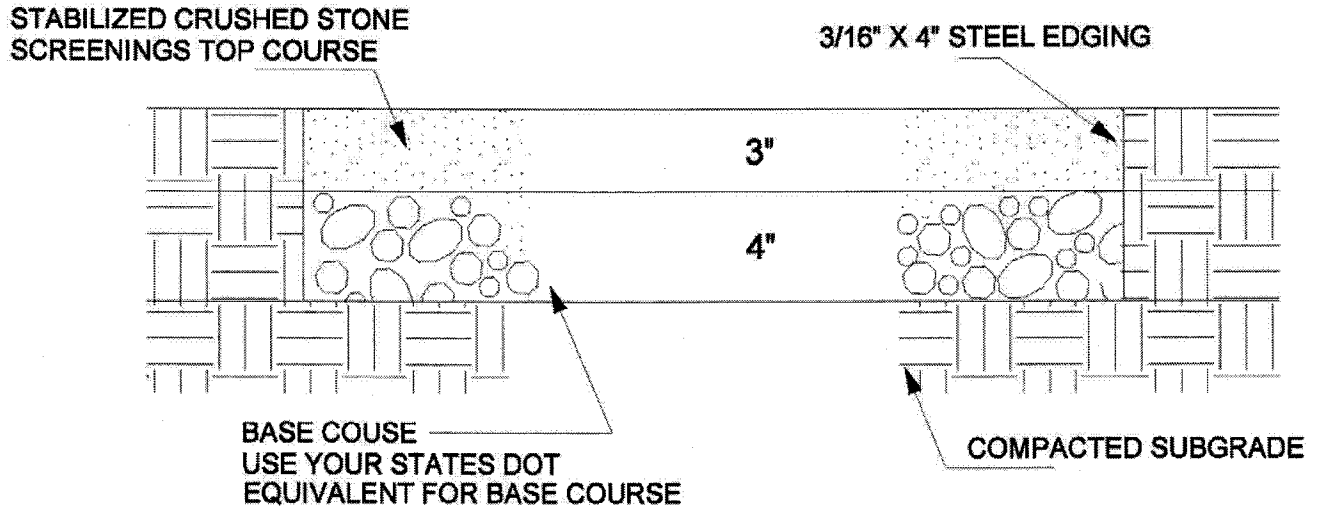
d). **REPAIRS AND PROTECTION**

Remove and replace decomposed granite or crushed 3/8" or 1/4" minus aggregate paving that is damaged, defective or does not meet requirements of this section.

THE FOLLOWING CROSS SECTION MAY BE USED FOR THE INSTALLATION OF CRUSHED STONE SCREENINGS AND STABILIZER AS THE BONDING AGENT. THIS DETAIL MAY ALSO BE MODIFIED TO MEET SPECIFIC CONDITIONS.

SUPER ELEVATED PAVING SECTION FOR MULTIPURPOSE DG TRAILS

DO NOT EXCEED $\frac{1}{2}"/\text{FT} \leq 4\%$



NOTES:

1. Other types of edging may be substituted for steel i.e. aluminum, pressure treated lumber, brick or other masonry units.
2. On steep cross slopes, provide a drainage swale on the upside of the paving.
3. The thickness of the base course will vary according to use requirements and the compactability of the subgrade.

24.4 MEDIAN LANDSCAPING

24.41 Median Hardscape

To reduce plant maintenance and conserve water, hardscape, rockeries, or other non-plant treatments shall be incorporated into the median design. As a general rule, a minimum of 30 percent and a maximum of 60 percent of the median's plantable area shall receive such treatment. Treatment shall be decorative in nature. Standard broom finish concrete or asphalt is not acceptable.

24.42 Trees

- a) Trees shall be planted a minimum of 5 feet from the face or curb. Median must be a minimum of 10 feet wide for tree planting.
- b) Trees shall be a minimum of 20 feet away from street lights and 10 feet away from traffic or street signs.
- c) Trees shall not be planted in median sight distance restricted use areas (see Standard 821)
- d) Trees planted in the median shall be from approved tree list (see Attachment B). Trees should be small diameter trunks and high canopies at full maturity.
- e) Tree planting, location and size shall comply with Caltrans requirements for highways classified per County Standards 91, 92, 93 and Expressway.

24.43 Shrubs and Ground covers

- a) Shrubs planted in a median shall be the low growing varieties. The shrubs normal growth habit shall not exceed 3 feet in height. Median shall be minimum of 6 feet wide for shrub planting.

- b) Shrubs planted in the sight distance restricted use areas shall not have a growth habit exceeding 30 inches in height (see Standard 821).
- c) Shrubs and hedges shall be designed and planted the same as for parkways.
- d) Ground covers shall be designed and planted the same as for parkways.

24.44 Lawn

Lawns shall not be permitted in medians.

24.5 WATER CONSERVATION AND IRRIGATION

24.51 Water Conservation

- a) Landscapes installed in County rights-of-way and open space/common areas shall contain water conservation elements in both the planting and irrigation design.
- b) Mulch, a minimum of 1-1/2 inches deep, shall be used around the base of trees (except trees in turf areas), and shrubs in groundcover areas shall also receive a layer of mulch 1-1/2 inches deep.
- c) Plans shall conform to the requirements of the Riverside County Water Efficient Landscape Ordinance Requirements, Article 10 of Ordinance No. 348. Projected landscape water use shall be calculated using the water budget formula found in the Riverside County Guide to Trees, Shrubs, and Ground covers booklet, Addendum No. 1, of Ordinance No. 348. A monthly watering schedule indicating run time, frequency of irrigation and hours of watering shall be provided for the first and second years of plant establishment and growth.
- d) Irrigation plans shall also conform to any requirements established by the local water purveyor servicing the project area.

24.52 Irrigation System Design and Equipment

- a) Plants shall be grouped by hydro zones, according to their horticultural water needs. Each hydro zone shall be irrigated by a separate valve.
- b) Irrigation systems shall be designed according to maintenance areas. All irrigation system equipment (controllers, valves, piping, heads, etc.) shall be installed within the maintenance area. In landscape areas that include the right-of-way and a contiguous dedicated landscape easement, the irrigation system need not be separated if the entire landscape area is being maintained by one entity. Areas maintained by different maintenance entities shall also have their own water and electrical points of connections.
- c) The use of reclaimed water shall be investigated as to its availability and applicability. Provisions to convert a potable system to a non-potable system may be required. Irrigation plans for reclaimed water must be approved by the local water district or applicable California Regional Water Quality Control Board.
- d) Potable water irrigation systems shall be equipped with a backflow prevention device approved by the California State Department of Health, the County Environmental health Department, and the applicable water purveyor. Backflow prevention devices shall be covered with a vandal-resistant steel or aluminum enclosure with locks. (See Standard 1103)
- e) Irrigation systems, other than private individual homeowner areas, installed within road rights-of-way shall include the following:
 - a. A wye filter or basket strainer shall be installed before backflow prevention devices.
 - b. An automatic controller with at least as many stations as valves indicated or the irrigation design. Controller shall be solid state and equipped with multiple programs, water budgeting, and repeat cycles. Controller shall be enclosed in a vandal-resistant steel or

aluminum enclosure.

- c. Gate valves shall be installed in pressure main lines at each valve along the system to allow shutting down portions of the system. Gate valves shall also be installed on the supply side of a main line that crosses a street.
- d. Remote control valves shall be installed below ground in valve boxes. Valves shall be wired to controller using UGF wire, minimum 12 gauges. Wire shall be a continuous run from controller to valve. Common wire splice shall occur at valve boxes or splice boxes.
- e. Quick coupling valves shall be located along pressure main line at maximum intervals of 200 feet. Valves shall be installed in a round valve box.
- f. Moisture-sensing equipment, such as tensionmeters and rain shutoff devices, are encouraged. These features shall be required in areas to be maintained by L&LMD 89-1-C or acceptable public entity.
- g. Antidrain devices shall be installed where low head drainage may occur.
- f) Direct water application around the plants' root zone, through bubblers, is encouraged generally and is required in medians. However, median width may determine usage of spray heads verses bubblers.
- g) All spray heads and rotor heads shall be of the "pop-up" type with a minimum 6-inch pop up in turf areas and 12 inches in shrub areas.
- h) Turf areas shall be watered separately from shrub areas. Slope areas shall have the toe, middle and top areas of the slope on separate valves.
- i) Irrigation systems shall be designed to provide uniform coverage.
- j) Irrigation shall be designed to prevent water from being deposited on the street or sidewalks. Spray patterns shall be adjusted to prevent over spray. Runoff shall be minimized.
- k) Pressure calculations shall be provided for valve with highest gpm and the farthest valve from point of connection. Slope system will require a pressure calculation for system with the greatest elevation increase.
- l) If a pump is required, calculations shall be submitted for review.
- m) In areas designated to become part of L & LMD No. 89-1-C, the County reserves the right to specify additional irrigation equipment that would reduce or minimize annual landscape operation costs; e.g., an in-line fertilization system. Such features would be dependent upon the nature and extent of the proposed landscaping.

24.53 Installation

- a) The landscape contractor shall coordinate the irrigation installation work, such as point of connections, sleeving, and utilities, with work of other trades. The irrigation installation shall be done in such a manner to avoid problems with the planting of trees and shrubs or other related work as called for on the plans.
- b) Irrigation pressure mainlines shall be a minimum of 18 inches below finish grade. Nonpressure lateral lines shall be buried a minimum of 12 inches below finish grade. Where any pipes pass under vehicle access ways, the minimum pipe depth shall be 36 inches below finish surface and shall be installed in PVC sleeving.
- c) Controllers and valves shall be located in an accessible parkway or open space areas locations. Controllers shall not be placed in the median. Valves may be installed in medians, if necessary.
- d) Wiring for valves shall follow the mainline. Wiring shall be a minimum of 18 inches below finish grade. Where wiring passes under vehicle access ways, or the wiring does not follow the mainline, then the wiring shall be installed in a separate PVC conduit, minimum 1 inch size. A pull box shall

be located at each end of the conduit.

- e) Provide an 18-inch-long expansion loop in wire run for each change in wiring direction and at valve boxes.
- f) Controller charts and reproducible as-built plans shall be provided to the County for all landscaping with the rights-of-way.
- g) Landscape architect of record shall certify that all landscaping and related irrigation was installed per plan and per these standards.

24.6 INSPECTION AND SUBMITTAL

All work within the County rights-of-way shall be subject to inspection to verify that work has been done according to approved plans and per County specifications. The County Transportation Department shall be notified two working days prior to the work requiring inspection.

24.7 CONSTRUCTION CLEAN UP

During the course of the work, the sidewalks and street shall be left in an orderly, neat and clean condition. Equipment, supplies and materials shall be stored in a safe way and in a location so as not to interfere with other work or impair site distance. Excess equipment, material, soil, etc., shall be removed from the site.

24.8 STREET TREE MAINTENANCE, REMOVAL, AND PRESERVATION

24.81 Tree Maintenance

- a) The Transportation Department provides street tree crews to perform limited tree trimming where trees located within County rights-of-way have branches that overhang roadways or walkways and present a hazard to the traveling public, in accordance with County Resolution No. 73-142. Trees shall be pruned to meet the following criteria:
 - a. All branches overhanging roadways beyond curb face shall have 13'-6" minimum vertical clearance.
 - b. All branches overhanging walkway shall be 8-foot-minimum vertical clearance.
- b) Trees covered by a landscape maintenance agreement or district shall be maintained or removed as necessary per the agreement or by the maintenance district.
- c) Tree branches entangled in, or interfering with, overhead utility wires will be referred to the appropriate utility for maintenance requests.
- d) Fronting property owners shall be notified prior to the trimming or removal of any specimen trees in County right-of-way.

24.82 Tree Removal (On or Adjacent to County Road Rights-of-Way)

The purpose of this standard is to establish a procedure to insure that proper review is provided prior to the determination and ordering of work to remove trees from County maintained rights-of-way or trees located on private property which pose a public safety hazard to public-dedicated activities within County rights-of-way.

- a) Conditions upon which trees may be considered for removal:
 - a. Dead or diseased.
 - b. Danger to traffic or private property.

- c. Conflict with construction work or major maintenance project
 - d. Trees creating unsafe conditions such as a sight distance restriction.
 - e. Tree or trees located near the edge of the traveled way and are regarded as a target location of an errant vehicle.
 - f. Removal is requested by adjacent property owners and justifiable by above stated conditions.
 - g. Tree entangled in, or interfering with, overhead utility wires.
- b) The recommendation for such removal is to be submitted to the Deputy Director of Transportation for approval prior to commencing any removal activities. This report should provide, but is not limited to, the follow information:
- a. Road book map showing locations
 - b. Accident data (at least three years).
 - c. Contacts with the property owners.
- c) The Deputy Director of Transportation is authorized to approve such tree removal. However, any location where tree removal may be a sensitive issue in the neighborhood should be brought to the attention of the Director of Transportation who will in turn advise the County Supervisor for that Supervisorial District.
- d) The owner of trees on private property adjacent to County rights-of-way and whose trees have been designated for removal per the above shall be notified by the County to have the trees removed. Trees may be removed by the County, at the property owners expense, if owner fails to comply with tree removal notice.

24.83 Tree Preservation

Rapid population growth and vigorous development have resulted in the loss of a great number of trees throughout Riverside County. While new trees are being planted, the loss of specimen trees is an alarming situation. Therefore, a standard for tree preservation has been established to protect these precious resources as outlined below and also in the County Oak Tree Management Guidelines and Ordinance No. 559 pertaining to native trees above 5,000 feet in elevation.

All tentative subdivision and parcel maps shall identify all trees located within proposed or existing road rights-of-way having a trunk diameter of 8 inches or more for trees 25 feet in height or greater. Trees shall be noted as to location, diameter, drip line extent, species name and common name. Trees of similar species and size which are part of a group or orchard need not be identified individually. Upon review by the Transportation Department staff, all trees identified as "specimen trees" shall be retained.

Specimen trees are identified as being any tree which may possess historical value. Specimen trees shall be healthy and typical of species.

Olea Europaea (Olive) and all Palm species shall be retained whenever possible. When retention is not feasible, trees of these species shall be relocated.

24.84 Parkways

Homeowners are required to maintain landscaping and irrigation in parkway areas along frontage of their lot and side (if a corner lot), except street trees.

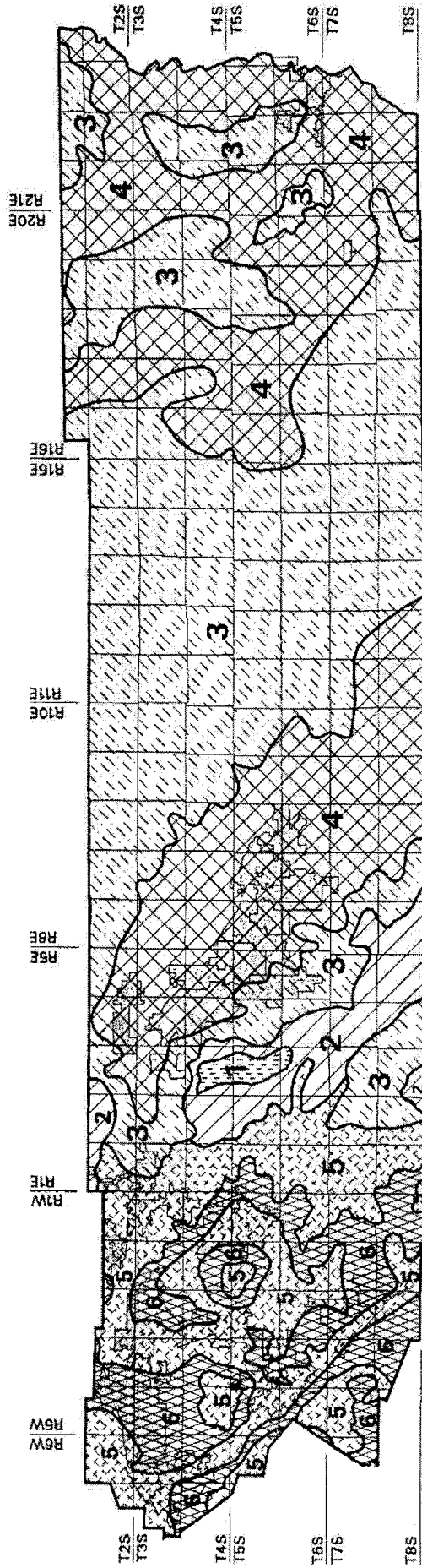
24.9 Attachments




a) Attachment A - Riverside County Climate Map..... 52




b) Attachment B – Street Tree List..... 53

c) Attachment C - Board Policy H-25, Water Efficient Landscape Policy 55

RIVERSIDE COUNTY Climate Zones



-  1 Second Coldest Climate
Soil Freezes in Winter
-  2 Mildest of High - Elevation
and Interior Climates
-  3 Medium to High Desert of
California and Southern Nevada

-  4 Low or Subtropical
Desert Area
-  5 Above and Below Thermal Belts in
Southern California's Interior Valleys
-  6 Thermal Belt Around Southern
California's Interior Valleys



Cities



Map Not To Scale
August 7, 2002

Street Trees Attachment B

The following is the approved tree list for the County of Riverside Transportation Department. Trees used in any County Rights of Way will come from this list. Alternative trees will be reviewed for acceptability on a case by case basis. Trees are listed by name, climate zone, and use restrictions.

Planting Restriction Codes

M Median planting not permitted

RB Root barrier required if planted closer than 6-feet from any hardscape, edge of walk, curb, or wall footing.

➤ Trees also listed in Riverside County Guide to Trees, Shrubs, & Ground Covers

	BOTANICAL NAME	COMMON NAME	PLANTING RESTRICTIONS	ZONE					
				1	2	3	4	5	6
	<i>Acer saccharinum</i>	Silver Maple	RB	•	•			•	•
	<i>Acer saccharum</i>	Sugar Maple		•	•			•	•
	<i>Albizia julibrissin</i>	Silk Tree		•	•	•	•	•	•
	<i>Alnus rhombifolia</i>	White Alder	M, RB	•	•			•	•
	<i>Bauhinia purpurea</i>	Orchid Tree					•	•	•
	<i>Brachychiton acerifolius</i>	Flame Tree						•	•
➤	<i>Brachychiton populneus</i>	Bottle Tree					•	•	•
➤	<i>Calocedrus decurrens</i>	Incense Cedar	RB	•	•	•		•	•
➤	<i>Casuarina cunninghamiana</i>	Australian River Oak					•	•	•
	<i>Casuarina stricta</i>	She Oak					•	•	•
	<i>Cedrus atlantica</i>	Atlas Cedar	RB	•	•	•	•	•	•
	<i>Cedrus deodara</i>	Deodar Cedar	RB	•	•	•		•	•
➤	<i>Chilopsis linearis</i>	Desert Willow				•	•	•	•
	<i>Cinnamomum camphora</i>	Camphor Tree	RB				•	•	•
	<i>Cotinus coggygria</i>	Smoke Tree		•	•	•			
	<i>Cupaniopsis anacardioides</i>	Carrotwood							•
	<i>Cyressocyparis leylandii</i>	Leylandi Cypress		•	•	•	•	•	•
	<i>Erythea edulis (Brahea edulis)</i>	Guadalupe Palm					•	•	•
➤	<i>Eucalyptus citriodora</i>	Lemon Scented Gum					•		•
➤	<i>Eucalyptus leucoxylon</i>	White Ironbark				•	•	•	•
➤	<i>Eucalyptus nicholii</i>	Peppermint				•	•	•	•
➤	<i>Eucalyptus polyanthemos</i>	Silver Dollar Gum				•	•	•	•
➤	<i>Eucalyptus rudis</i>	Desert Gum	RB			•	•	•	•
	<i>Eucalyptus sideroxylon</i>	Red Ironbark				•	•	•	•
	<i>Eucalyptus viminalis</i>	Manna Gum	RB			•	•	•	•
➤	<i>Ficus retusa nitida</i>	Indian Laurel	M, RB					•	•
	<i>Fraxinus modesto</i>	Modesto Ash	RB		•	•	•	•	•
➤	<i>Fraxinus velutina</i>	Arizona Ash	RB			•	•	•	•

	<i>Geijera parvifolia</i>	Australian Willow						•	•	•
	<i>Hymenosporum flavum</i>	Sweetshade							•	•
➤	<i>Ilex altaclarensis wilsonii</i>	Wilson Holly			•	•	•	•	•	•
	<i>Jacaranda acutifolia</i>	Jacaranda						•	•	•
	<i>Koelreuteria bivinnata</i>	Flame Tree					•	•	•	•
➤	<i>Koelreuteria paniculata</i>	Goldenrain Tree			•	•	•	•	•	•
	<i>Lagerstroemia pindica</i>	Crape Myrtle						•	•	•
	<i>Ligustrum lucidum</i>	Glossy Privet					•	•	•	•
➤	<i>Liquidambar styraciflua</i>	Liquidambar	RB	•	•				•	•
	<i>Liriodendron tulipifera</i>	Tulip Tree	RB	•	•				•	•
➤	<i>Magnolia grandiflora</i>	Southern Magnolia	RB					•	•	•
	<i>Olea europae</i>	Olive					•	•	•	•
➤	<i>Pinus canariensis</i>	Canary Island Pine							•	•
	<i>Pinus coulteri</i>	Coulter Pine					•		•	•
➤	<i>Pinus eldarica</i>	Mondell Pine	RB					•	•	•
	<i>Pinus halepensis</i>	Aleppo Pine	RB	•	•	•	•	•	•	•
	<i>Pinus lambertiana</i>	Sugar Pine							•	•
	<i>Pinus pinea</i>	Italian Stone Pine							•	•
	<i>Pinus ponderosa</i>	Ponderosa Pines	RB	•	•	•	•	•	•	•
	<i>Pinus Sylvestris</i>	Scotch Pine	RB						•	•
➤	<i>Pistacia chienis</i>	Chinese Pistache					•	•	•	•
➤	<i>Platanus acerifolia</i>	London Plan Tree	M, RB	•	•	•	•	•	•	•
	<i>Podocarpus gracilior</i>	Fern Pine							•	•
➤	<i>Pyrus calleryana</i>	Bradford Pear		•	•				•	•
➤	<i>Pyrus kawakami</i>	Evergreen Pear							•	•
➤	<i>Quercus agerifolia</i>	Live Oak	RB						•	•
➤	<i>Quercus ilex</i>	Holly Oak	RB				•	•	•	•
	<i>Quercus Kelloggi</i>	Black Oak							•	•
➤	<i>Quercus suber</i>	Cork Oak	RB				•	•	•	•
	<i>Quereus cocinea</i>	Red Oak		•	•	•	•	•	•	•
	<i>Rhus lancea</i>	African Sumac							•	•
	<i>Schinus molle</i>	California Pepper	RB						•	•
	<i>Sequoia sempervirens</i>	Coast Redwood	RB						•	•
	<i>Tilia cordata</i>	Little Leaf Linden		•	•	•	•			
	<i>Tipuana tipu</i>	Tipu Tree	RB						•	•
	<i>Ulmus parvifolia</i>	Chinese Elm	RB						•	•
	<i>Washingtonia filifera</i>	California Fan Palm	(short)				•	•	•	•
	<i>Washingtonia robusta</i>	Mexican Fan Palm	(tall)				•	•	•	•

Attachment C

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

423



FROM: Department of Facilities Management

SUBMITTAL DATE:
July 20, 2005

SUBJECT: Introduction and Adoption of Board Policy H-25, Water Efficient Landscape Policy for County Facilities

RECOMMENDED MOTION: That the Board of Supervisors approve the attached proposed Board Policy H-25, Water Efficient Landscape Policy for County Facilities.

BACKGROUND: On March 1, 2005, via Minute Order 3.44, the Board of Supervisors approved Resolution 2005-083, which proclaimed the County of Riverside a "Water Wise County". Within the resolution, the county committed to the development and implementation of water use efficiency guidelines. With assistance from Supervisor Ashley's office, attached is Board Policy H-25, Water Efficient Landscape Policy for County Facilities, which requires that all county facilities should be as water efficient as possible. Any new or retrofitted county facilities shall follow this policy.

Departmental Concurrence

Michael J. Sylvester
MICHAEL J. SYLVESTER, DIRECTOR
Department of Facilities Management

MJS:LB

FINANCIAL DATA	Current F.Y. Total Cost:	\$ -0-	In Current Year Budget:	N/A
	Current F.Y. Net County Cost:	\$ -0-	Budget Adjustment:	N/A
	Annual Net County Cost:	\$ -0-	For Fiscal Year:	05-06

SOURCE OF FUNDS:

Positions To Be Deleted Per A-30	<input type="checkbox"/>
Requires 4/5 Vote	<input type="checkbox"/>

C.E.O. RECOMMENDATION:

APPROVE

Lisa Brandt

County Executive Office Signature

Policy
 Policy
 Consent
 Consent

 Dept't Recomm.:
 Per Exec. Ofc.:

MINUTES OF THE BOARD OF SUPERVISORS

On motion of Supervisor Stone, seconded by Supervisor Tavaglione and duly carried, IT WAS ORDERED that the above matter is approved as recommended.

Ayes: Tavaglione, Stone and Wilson
 Nays: None
 Absent: Buster and Ashley
 Date: August 9, 2005
 xc: Facil. Mgmt., All Depts., COB(2)

Nancy Romero
Clerk of the Board
By *Nancy Romero*
Deputy

Prev. Agn. Ref.: 3.44 3/1/04

District: All

Agenda Number:

3.25

COUNTY OF RIVERSIDE, CALIFORNIA
BOARD OF SUPERVISORS POLICY

Subject:	<u>Policy Number</u>	<u>Page</u>
Water Efficient Landscape Policy for County Facilities	H-25	1 of 1

Policy:

The purpose of this Use Policy is to provide guidelines for the encouragement of water efficient landscaping for County-owned facilities.

This landscape policy promotes water efficient California landscapes that are harmonious with the diverse environment within the County of Riverside. This policy is established to preserve water, which is a valuable natural resource within the county.

Design Guidelines

The following landscaping guidelines are encouraged for all new or retrofitted county-owned facilities:

1. Use of drought tolerant, "California friendly" plantings suitable to the microclimate of the area.
2. Use of native trees and plants whenever possible.
3. Appropriate landscaping for fire safety in fire prone areas.
4. Use of separate irrigation valves for hydrozones.
5. Use of separate meters for irrigation systems.
6. Installation of automatic controllers, weather-based controllers and rain switches.
7. Use irrigation systems designed to avoid runoff and overspray e.g., drip systems where feasible.
8. Avoid turf grass in medians.
9. Monthly and annual irrigation schedules specifying estimated water use.
10. Develop routine landscape maintenance and implement efficient water management/irrigation practices.
11. Conduct irrigation audits every five years.
12. Encourage the use of recycled water whenever possible.

Bidder: Freeway Electric
5942 Acorn Street
Riverside, CA 92504
951.710.1000

Bid Recipient: Clerk of the Board of Supervisors
County of Riverside
1st Floor
4080 Lemon St.
Riverside, CA 92501



Bid Date: ~~Monday~~ January 10, 2011

Bid Time: 2:00p.m.

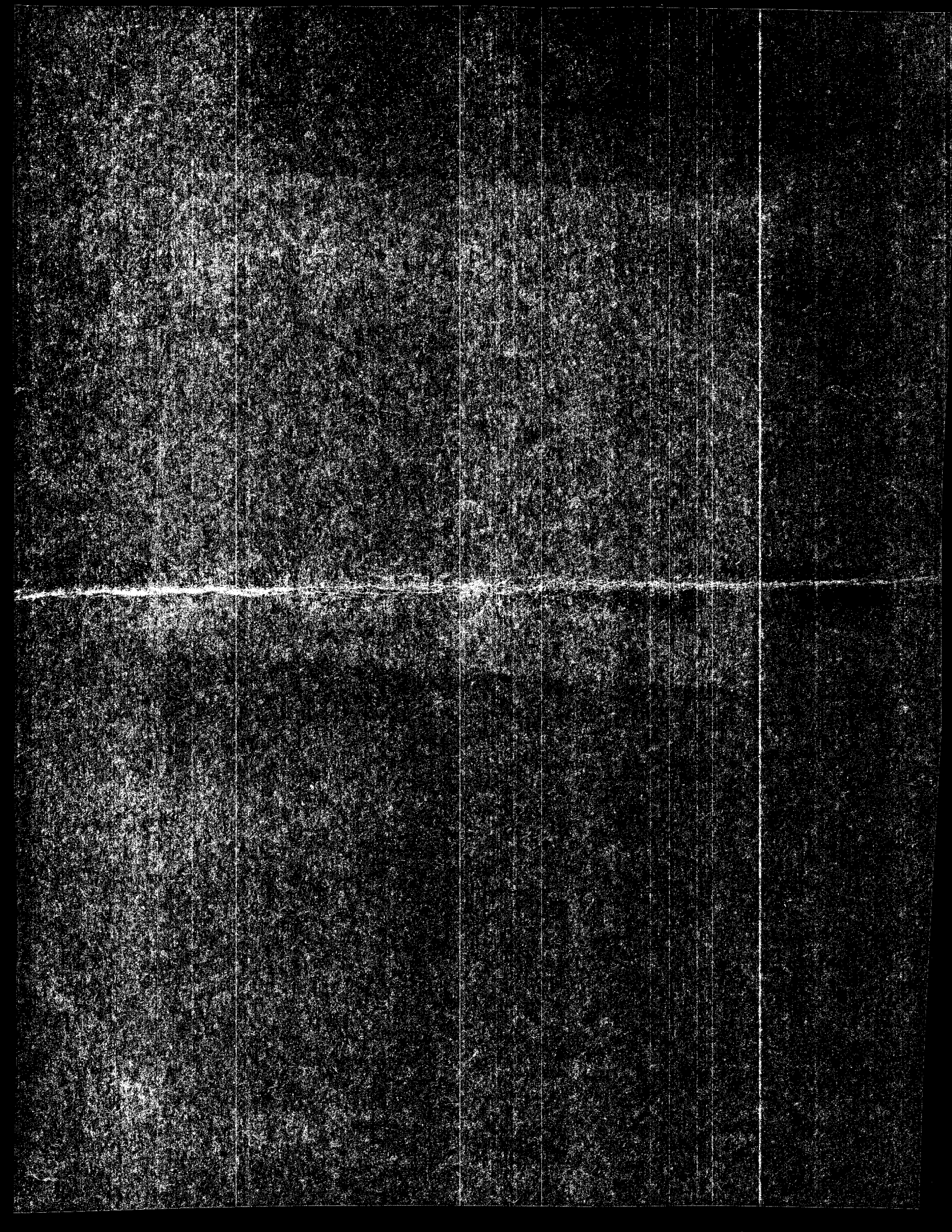
Project Desc: Mission Blvd. Improvement Project
Phase III Median Electrical Infrastructure

Bid Enclosed – Do Not Open With Regular Mail.

SEALED BID RECEIVED
CLERK OF THE BOARD OF SUPERVISORS

RECEIVED RIVERSIDE COUNTY
CLERK / BOARD OF SUPERVISORS

2011 JAN 10 PM 1:48



SPECIFICATIONS AND CONTRACT DOCUMENTS
FOR:

Mission Boulevard Improvement Project Phase III
Median Electrical Infrastructure

PREPARED BY
**REDEVELOPMENT AGENCY FOR
THE COUNTY OF RIVERSIDE**
PROJECT MANAGEMENT OFFICE
December 1, 2010

NOTICE INVITING BIDS

The Redevelopment Agency for the County of Riverside, herein called Owner, invites sealed proposals for the construction of: **Mission Boulevard Improvement Project Phase III Median Electrical Infrastructure**

Proposals shall be delivered to the Clerk of the Board of Supervisors, on the 1st floor of the County Administrative Center located at 4080 Lemon Street, Riverside, CA 92501 no later than **2:00 p.m. on January 6, 2011** and will be promptly opened in public at said address.

Each Proposal shall be in accordance with the Plans, Specifications, and other Contract Documents dated **December 1, 2010** and prepared by the Redevelopment Agency for the County of Riverside and by:

MRC Engineering, Inc.

72-880 Fred Waring Drive, Suite C-11, Palm Desert, CA 92260
Phone: 760-340-9005

Plans & Specifications and Plan Holders List are available for purchase by contractors beginning **December 9, 2010** at:

A&I Reprographics

898 Via Lata, Suite L, Colton, CA 92324
<http://dfs.aandirepro.com>
Phone: 909-514-0704

Notice of Award will be available at A&I Reprographics. <http://dfs.aandirepro.com>

REQUEST FOR INFORMATION:

All RFI's must be sent to **MRC Engineering, Inc.** via email to nherrera@mrc-e.com or via facsimile to 760-340-9100. RFI's will not be answered via phone calls or any other means. The **deadline for RFI's is 1:00 p.m. on December 28, 2010.**

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

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

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

The Contractor will be required per Public Contract Code §3300 and for this project, to have a State of California contractor's license classification **B**. A mandatory pre-bid conference will be held at **10:00 a.m. on December 23, 2010, meeting at the northeast corner of Mission Boulevard and Crestmore Road in Rubidoux, CA. No bids will be accepted from bidders who have not attended the pre-bid job walk.**

For further information, contact Rizaldy Baluyot at the Economic Development Agency, located at 3403 10th St., Suite 500, Riverside, CA 92507-4199 whose telephone number is (951) 232-9268.

REDEVELOPMENT AGENCY FOR THE COUNTY OF RIVERSIDE

Kecia Harper-Ihem, Clerk

INSTRUCTIONS TO BIDDER

- A. **FORM OF THE PROPOSAL:** The proposal must be made on the attached Contractors Proposal form, which must be filled out completely, dated and signed by the bidder or duly authorized agent in accordance with the directions on the Proposal form.

Each proposal shall include a complete list of the subcontractors proposed for every portion of the work, in accordance with Public Contract Code Sections 4100 - 4114, inclusive.

- B. **SUBMISSION OF PROPOSAL:** Signed copies of each Proposal shall be sealed in an opaque envelope. The envelope shall bear the bidders name and shall be marked:

*PROPOSAL FOR THE CONSTRUCTION OF

Mission Boulevard Improvement Project Phase III Median Electrical Infrastructure
Mission Boulevard Median between Crestmore Road and Riverview Drive
in Riverside, CA

Proposals shall be submitted at the place designated in the Notice Inviting Construction Bids at, or before, the time specified in said Notice. Before that time a proposal may be withdrawn, but only in person by the bidder or someone authorized by him in writing, and not by telephone or telegram.

- C. **INTERPRETATION OF THE DOCUMENTS:** Discrepancies in and omissions from the plans, specifications or other contract documents, or questions as to their meaning shall, at once, be brought to the attention of the Engineer. Any interpretation of the documents will be made only by addenda duly issued and a copy of such addenda will be mailed or delivered to each person or firm receiving a set of such documents. The Owner will not be responsible for any other explanations or interpretations. Should anything in the scope of the work or any of the sections of the specifications be of such nature as to be apt to cause disputes between the various trades involved, such information shall be promptly called to the attention of the Engineer.
- D. **ADDENDA TO THE DOCUMENTS:** The Owner reserves the right to issue such addenda to the documents as it may desire at any time prior to the time fixed for receiving proposals. A copy of all such addenda will be promptly mailed or delivered to each bidder. The number and date of each addendum shall be listed on the Contractors Proposal in the space provided.
- E. **OWNERS RESERVATION OF RIGHTS:** The Owner reserves the right to reject any or all proposals and to waive any informalities in a bid or in the bidding. No bidder may withdraw his bid for a period of sixty (60) days after the time set or the opening thereof.
- F. **BIDDERS CHECK OR BOND:** Each proposal must be accompanied by a certified or cashier's check, or by a bid bond on the form supplied by the Owner, drawn in favor of the Owner in an amount not less than ten percent (10%) of the total proposal. This check or bond shall be given as a guarantee that the bidder, if awarded the contract, will execute and deliver the contract documents and the required Payment & Performance bonds in accordance with his proposal accepted by the Owner.

In default of execution of the contract upon award and/or delivery of said Payment and

Performance Bonds, such proposal bond or check shall be held subject to payment to the Owner of the difference in money between the amount of the bidders proposal and the amount for which the Owner may legally contract with another party to perform the said work together with the costs to the Owner of redrafting, redrawing and publishing documents and papers necessary to obtain new bids on the said work. The check or bond shall, in addition, be held subject to all other damages suffered by the Owner, as set forth in the contract documents. Said check or bond will be returned upon the close of the period mentioned in Paragraph E above, and to the successful bidder upon execution o the contract documents.

NO BONDS WILL BE ACCEPTED UNLESS SUBMITTED ON FORM SUPPLIED BY OWNER.

- G. AWARD OF CONTRACT: The contract shall be awarded upon a resolution or minute order to that effect duly adopted by the governing board of the Owner. Execution of the contract documents shall constitute a written memorial thereof.
- H. ADDITIONAL INFORMATION: The Owner reserves the right to require of a bidder information regarding financial responsibility or such other information as the Owner determines is necessary to ascertain whether a bid is in fact the lowest responsible bid submitted. All references to an Architect shall be deemed to refer to the Owner where no Architect has been employed by the Owner.
- I. PROMPT ACTION BY CONTRACTOR: After the award of the Contract by the Owner, and within four (4) days after the Agreement Forms are presented to the Contractor for signing, he shall return to the Owner the signed Agreements, along with all necessary Bonds and Certificates of Insurance.
- J. CAUTION TO BIDDERS: Prospective bidders are cautioned not to merely examine the plans and specifications in making their bid, since requirements are imposed upon the contractor by various other portions of the Contract Documents.
- K. PERFORMANCE AND PAYMENTS BONDS: Bidders attention is directed to the requirement that both the Performance and Payment Bonds are one hundred percent (100%) of the contract price.
- L. BIDDERS QUALIFICATIONS: To be considered, a potential bidder must have a AB@ License, as required under provisions of Public Contracts Code Section 3300, and the California Business and Professions Code, for work covered in its proposal when a bid is submitted. This includes a joint venture formed to submit a bid.
- M. TIME OF COMPLETION: Time of completion of project is **thirty (30) calendar days** from the date specified in the NOTICE TO PROCEED issued by the Owner.
- N. BIDS: Under the bidding items listed on Contractors Proposal, bidders shall state prices for each bases for bid given herein after:
 - 1. Base Bid shall be the entire work complete in accordance with the drawings and specifications.

CONTRACTORS PROPOSAL

TO THE GOVERNING BOARD OF
THE
REDEVELOPMENT AGENCY
FOR THE COUNTY OF RIVERSIDE

Date 12/27/2010
Brawley Construction Inc
Bidder

The undersigned, having carefully examined the proposed site and the Plans and Specifications, the Notice Inviting Bids, the Instructions to Bidders, the Agreement Form, the Bond Forms, the General Conditions and the Supplementary General Conditions for the **Mission Boulevard Improvement Project Phase III Median Electrical Infrastructure**, Mission Boulevard Median between Crestmore Road and Riverview Drive in Riverside, CA, hereby proposes and agrees to furnish all tools, equipment, services, apparatus, facilities, transportation, labor and materials necessary to complete the construction in strict conformity with the Plans and Specifications, including all work specified in Addenda numbered and dated:

Addendum No. <u>1</u>	Date <u>1/3/2011</u>
Addendum No. <u>2</u>	Date <u>1/4/2011</u>
Addendum No. _____	Date _____

for the total sum, including all applicable taxes, permits and licenses as follows:

Base Bid (with course of construction insurance)	\$ <u>281,883.00</u>
Base Bid (without course of construction insurance)	\$ <u>280,883.00</u>

The determination of the low bidder will not include the costs of course of construction insurance. Bids must be submitted on all items. Failure to bid on all items may result in the bid being rejected as non-responsive.

DESIGNATION OF SUBCONTRACTORS

In compliance with the Public Contract Code, Sections 4104-4144, the undersigned submits the following complete list of each subcontractor who will perform work or labor or render services in or about the construction in an amount in excess of 2 of 1% of said total bid.

PORTION OF THE WORK	SUBCONTRACTOR	LOCATION	LICENSE NO.
ELECTRIC	IMPERIAL ELECTRIC	IRVINDALE, CA	694815
DEMOLITION	CRAFTSMAN CONCRETE	IRVINDALE, CA	634469
CONCRETE	WALCRETE	REDLANDS, CA	834220

legally contract with another party to perform the said work if such amount be in excess of the former, building lease or rental costs, transportation costs and additional salary costs that result from the delay due to the principal's default on the awarded contract. In no event, however, shall the Surety's liability exceed the penal sum hereof.

Name of Bidder Broughton Construction Inc
Type of Organization S Corporation
Signed By Wm Van der Bossche / Broughton
Title of Signer Secretary
Address of Bidder 10722 Arrow Rt # 910 Rancho Cucamonga, Ca
Telephone Number (909) 481-6135 91738
Contractor's License 550387 Classification B, A, C-53, C-8

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

AFFIDAVIT FOR INDIVIDUAL CONTRACTORS

_____ declares as follows:

That he or she is the party making the foregoing proposal or bid; that the bid is not made in the interest of, or on behalf of, any undisclosed person, partnership, company, associations, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the County of Riverside or anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I declare under penalty of perjury, that the foregoing is true and correct.

**Dated this _____ (day) of _____ (month), _____ (year)
at _____, California**

Signature of affiant:

Note: Notarization of signature required

AFFIDAVIT FOR JOINT VENTURE OR COPARTNERSHIP CONTRACTOR

_____ declares as follows:

That he or she is a member of the joint venture or copartnership firm designated as _____ which is the party making the foregoing proposal or bid; that the bid is not made in the interest of; or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the County of Riverside or anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company, association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

That he has been and is duly vested with authority to make and sign instruments for the joint venture or copartnership by

_____ who constitute the other members of the joint venture or copartnership.

I declare under penalty of perjury, that the foregoing is true and correct.

Dated this _____ (day) of _____ (month), _____ (year)
at _____, California

Signature of affiant:

Note: Notarization of signature required

AFFIDAVIT FOR CORPORATE CONTRACTOR

Alison Linden Basseche/Broughton declares as follows:

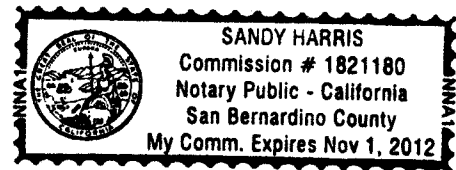
That he or ~~she~~ is Secretary
of Broughton Construction Inc a corporation which is a party making the foregoing proposal or bid; that the bid is not made in the interest of; or on behalf of, any undisclosed person, partnership, company, association, organization, or corporation; that the bid is genuine and not collusive or sham; that the bidder has not directly or indirectly induced or solicited any other bidder to put in a false or sham bid, and has not directly or indirectly colluded, conspired, connived, or agreed with any bidder or anyone else to put in a sham bid, or that anyone shall refrain from bidding; that the bidder has not in any manner, directly or indirectly, sought by agreement, communication, or conference with anyone to fix the bid price of the bidder or any other bidder, or to fix any overhead, profit, or cost element of the bid price, or of that of any other bidder, or to secure any advantage against the County of Riverside or anyone interested in the proposed contract; that all statements contained in the bid are true; and, further, that the bidder has not, directly or indirectly, submitted his or her bid price or any breakdown thereof, or the contents thereof, or divulged information or data relative thereto, or paid, and will not pay, any fee to any corporation, partnership, company association, organization, bid depository, or to any member or agent thereof to effectuate a collusive or sham bid.

I declare under penalty of perjury, that the foregoing is true and correct.

Dated this 26 (day) of December (month), 2010 (year)
at Rancho Cucamonga, California

Signature of affiant:

Note: Notarization of signature required



BID BOND

KNOW ALL MEN BY THESE PRESENTS, that we, the undersigned Broughton Construction, Inc., as Principal : and International Fidelity Insurance Company, as Surety, are hereby held and firmly bound unto the Redevelopment Agency FOR THE COUNTY OF RIVERSIDE, hereinafter called the "Owner", in the sum of Ten Percent of Amount Bid dollars (\$10%) for the payment of which sum, well and truly to be made, were hereby jointly and severally bind ourselves, our heirs, executors, administrators, successors and assigns.

WHEREAS, the said Principal is herewith submitting its proposal for the construction of Mission Blvd. / Crestmore Road - Electrical Upgrades, Some Concrete Work and Landscape

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

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

IN WITNESS WHEREOF, the above-bounded parties have executed this instrument under their several seals this 30th day of December, 2010, the name and corporate seal of each corporate party being hereto affixed and these presents duly signed by its undersigned representative, pursuant to authority of its governing body.

In the presence of:

Address

Individual Principal (Seal)

Address

Business Address
(Seal) Individual Principal

Business Address

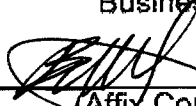
Attest:

Broughton Construction, Inc.
Corporate Principal
10722 Arrow Rte., Suite 810, Rancho Cucamonga, CA 91730
Business Address

By 
(Affix Corporate Seal)

Attest:

International Fidelity Insurance Company
Corporate Principal Surety
233 Wilshire Blvd., Ste 820, Santa Monica, CA 90401

Business Address
By 
(Affix Corporate Seal)
William Syrkin, Attorney-in-Fact


A. Wilkison, Notary Public

The rate of premium on this bond is N/A per thousand. Total amount of premium charged, \$ N/A.

(The above must be filled in by corporate surety.)

POWER OF ATTORNEY INTERNATIONAL FIDELITY INSURANCE COMPANY

HOME OFFICE: ONE NEWARK CENTER, 20TH FLOOR
NEWARK, NEW JERSEY 07102-5207

KNOW ALL MEN BY THESE PRESENTS: That **INTERNATIONAL FIDELITY INSURANCE COMPANY**, a corporation organized and existing laws of the State of New Jersey, and having its principal office in the City of Newark, New Jersey, does hereby constitute and appoint

R. HAAS-BATES, OWEN M. BROWN, BARBARA J. BENDER, WILLIAM SYRKIN

Irvine, CA.

its true and lawful attorney(s)-in-fact to execute, seal and deliver for and on its behalf as surety, any and all bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof, which are or may be allowed, required or permitted by law, statute, rule, regulation, contract or otherwise, and the execution of such instrument(s) in pursuance of these presents, shall be as binding upon the said **INTERNATIONAL FIDELITY INSURANCE COMPANY**, as fully and amply, to all intents and purposes, as if the same had been duly executed and acknowledged by its regularly elected officers at its principal office.

This Power of Attorney is executed, and may be revoked, pursuant to and by authority of Article 3-Section 3, of the By-Laws adopted by the Board of Directors of **INTERNATIONAL FIDELITY INSURANCE COMPANY** at a meeting called and held on the 7th day of February, 1974.

The President or any Vice President, Executive Vice President, Secretary or Assistant Secretary, shall have power and authority

- (1) To appoint Attorneys-in-fact, and to authorize them to execute on behalf of the Company, and attach the Seal of the Company thereto, bonds and undertakings, contracts of indemnity and other writings obligatory in the nature thereof and,
- (2) To remove, at any time, any such attorney-in-fact and revoke the authority given.

Further, this Power of Attorney is signed and sealed by facsimile pursuant to resolution of the Board of Directors of said Company adopted at a meeting duly called and held on the 29th day of April, 1982 of which the following is a true excerpt:

Now therefore the signatures of such officers and the seal of the Company may be affixed to any such power of attorney or any certificate relating thereto by facsimile, and any such power of attorney or certificate bearing such facsimile signatures or facsimile seal shall be valid and binding upon the Company and any such power so executed and certified by facsimile signatures and facsimile seal shall be valid and binding upon the Company in the future with respect to any bond or undertaking to which it is attached.



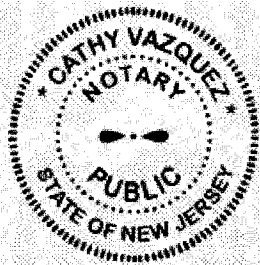
IN TESTIMONY WHEREOF, **INTERNATIONAL FIDELITY INSURANCE COMPANY** has caused this instrument to be signed and its corporate seal to be affixed by its authorized officer, this 16th day of October, A.D. 2007.

INTERNATIONAL FIDELITY INSURANCE COMPANY

STATE OF NEW JERSEY
County of Essex

Secretary

On this 16th day of October 2007, before me came the individual who executed the preceding instrument, to me personally known, and, being by me duly sworn, said he is the therein described and authorized officer of the **INTERNATIONAL FIDELITY INSURANCE COMPANY**; that the seal affixed to said instrument is the Corporate Seal of said Company; that the said Corporate Seal and his signature were duly affixed by order of the Board of Directors of said Company.



IN TESTIMONY WHEREOF, I have hereunto set my hand affixed my Official Seal, at the City of Newark, New Jersey the day and year first above written.

A NOTARY PUBLIC OF NEW JERSEY
My Commission Expires March, 27, 2014

CERTIFICATION

I, the undersigned officer of **INTERNATIONAL FIDELITY INSURANCE COMPANY** do hereby certify that I have compared the foregoing copy of the Power of Attorney and affidavit, and the copy of the Section of the By-Laws of said Company as set forth in said Power of Attorney, with the ORIGINALS ON IN THE HOME OFFICE OF SAID COMPANY, and that the same are correct transcripts thereof, and of the whole of the said originals, and that the said Power of Attorney has not been revoked and is now in full force and effect

IN TESTIMONY WHEREOF, I have hereunto set my hand this 30th day of December, 2010

Assistant Secretary

CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT

State of California

County of Orange

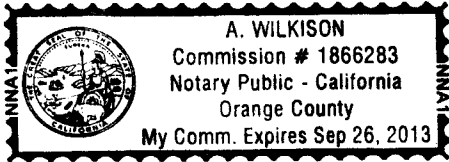
On 12/30/10 before me, A. Wilkison, Notary Public
Date Here Insert Name and Title of the Officer

personally appeared William Syrkin
Name(s) of Signer(s)

who proved to me on the basis of satisfactory evidence to be the person(s) whose name(s) is/are subscribed to the within instrument and acknowledged to me that he/she/they executed the same in his/her/their authorized capacity(ies), and that by his/her/their signature(s) on the instrument the person(s), or the entity upon behalf of which the person(s) acted, executed the instrument.

I certify under PENALTY OF PERJURY under the laws of the State of California that the foregoing paragraph is true and correct.

WITNESS my hand and official seal.



Place Notary Seal Above

Signature [Handwritten Signature]
Signature of Notary Public

OPTIONAL

Though the information below is not required by law, it may prove valuable to persons relying on the document and could prevent fraudulent removal and reattachment of this form to another document.

Description of Attached Document

Title or Type of Document: Bid Bond

Document Date: 12/30/10 Number of Pages: Two (2)

Signer(s) Other Than Named Above: _____

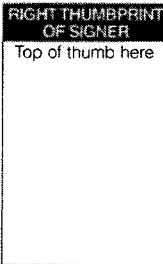
Capacity(ies) Claimed by Signer(s)

Signer's Name: William Syrkin

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

Signer Is Representing: _____

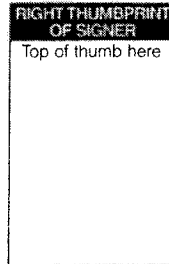
International Fidelity Insurance Company



Signer's Name: _____

- Individual
- Corporate Officer — Title(s): _____
- Partner — Limited General
- Attorney in Fact
- Trustee
- Guardian or Conservator
- Other: _____

Signer Is Representing: _____



ughton Construction Inc
Arrow Rte #810
Mehow Cucamonga, Ca. 91730

SEALED BID RECEIVED
CLERK OF THE BOARD OF SUPERVISORS

RECEIVED RIVERSIDE COUNTY
CLERK / BOARD OF SUPERVISORS
2011 JAN 10 PM 1:41

Re development Agency for
The County of Riverside
4080 Lemon St. 1st floor of County Administrative
Riverside, CA 92501

5101st Blvd Improvement Project phase III
dian Electrical Infrastructure

ATTACHMENTS FILED
WITH
THE CLERK OF THE BOARD