

3 inches. Samples that are clearly defective, as a result of sampling, shall be discarded and another sample taken. The CONTRACTOR shall furnish all tools, labor, and materials for cutting samples and filling the cored pavement. Cored holes shall be filled with hot mix asphalt concrete in a manner acceptable to the ENGINEER and within one day after sampling.

If the test results for any lot of asphalt concrete indicate that the relative compaction is below 95.0 percent, but above 92.9 percent, the CONTRACTOR will be advised that he is not attaining the required relative compaction and that his materials or his procedures, or both, need adjustment. Asphalt concrete spreading operations shall not continue until the CONTRACTOR has notified the ENGINEER of the adjustment that will be made in order to meet the required compaction.

If the test results for any lot of asphalt concrete indicate that the relative compaction is less than 93.0 percent, the asphalt concrete represented by that lot shall be removed, except as otherwise provided below. Asphalt concrete spreading operations shall not continue until the CONTRACTOR makes significant adjustments to his materials or procedures or both in order to meet the required compaction.

The adjustments shall be as agreed to by the ENGINEER. However, if requested by the CONTRACTOR and approved by the ENGINEER, asphalt concrete with a relative compaction of 90.0 percent or greater may remain in place and the CONTRACTOR shall pay to the OWNER the amount of reduced compensation for such lot with low compaction. The OWNER may deduct an amount of reduced compensation from any monies due, or that may become due the CONTRACTOR under the CONTRACT. The amount of reduced compensation the CONTRACTOR shall pay to the OWNER will be calculated using the total tons represented in the lot with low compaction times the CONTRACT price per ton for the CONTRACT items of asphalt concrete involved times the following reduced compensation factors:

Relative Compaction (Percent)	Reduced Compensation Factor	Relative Compaction (Percent)	Reduced Compensation Factor
93.0	0.000	91.4	0.062
92.9	0.002	91.3	0.068
92.8	0.004	91.2	0.075
92.7	0.006	91.1	0.082
92.6	0.009	91.0	0.090
92.5	0.012	90.9	0.098
92.4	0.015	90.8	0.108
92.3	0.018	90.7	0.118
92.2	0.022	90.6	0.129
92.1	0.026	90.5	0.142
92.0	0.030	90.4	0.157
91.9	0.034	90.3	0.175
91.8	0.039	90.2	0.196
91.7	0.044	90.1	0.225
91.6	0.050	90.0	0.300
91.5	0.056		

**8-3.5 SURFACE TOLERANCES.** The CONTRACTOR shall have on site a 12-foot straightedge for testing the AC surface when said straightedge is laid on the finished surface and parallel with the center line, the surface shall not vary more than 0.01 foot from the lower edge of the straightedge. The transverse slope of the finished surface shall be uniform to a degree such that no depressions greater than 0.02 foot are present when tested with a straightedge 12 feet long. No skin patching will be allowed to correct depressions.

**8-3.6 THICKNESS TOLERANCE.** The pavement thickness shall be determined by measuring the average thickness of core samples taken from the pavement for density determination. Thickness will be determined from the cores and shall be based upon the average of the cores per lot and subplot as described for density determination. The asphalt thickness indicated on the cross sections shall be maintained. Thickness deficiencies in excess of 3/8-inch shall be corrected by removal and replacement or overlay at the ENGINEER's discretion. No skin patches or overlays less than 1-1/2 inches will be allowed. The pay amount shall be reduced for thickness deficiencies equal to or less than 3/8-inch in proportion to two times the percent of thickness deficiencies to the specified pavement thickness (i.e., a 1/4-inch thickness deficiency in a pavement with a 2-inch specified thickness would result in a reduction of the unit price of  $(2 \times 0.25)/2.0 = 25$  percent) for the lot containing a thickness deficiency. No payment shall be made for thickness in excess of 1/4-inch of those specified. Adjusted pay quantities shall be deducted from the CONTRACT in accordance with Paragraph 8-6.1.

## EQUIPMENT

**8-4.1 SPREADING EQUIPMENT.** Asphalt pavers shall be self-propelled mechanical spreading and finishing equipment, provided with a screed or strike-off assembly capable of distributing the material to not less than the full width of a traffic lane. Screed action shall include any cutting, crowding, or other practical action which is effective on the mixture without tearing, shoving or gouging, and which produces a surface texture of uniform appearance. The screed shall be adjustable to the required section and thickness. The paver shall be provided with a full width roller or tamper or other suitable compacting devices. Pavers that leave ridges, indentations or other marks in the surface that cannot be eliminated by rolling or prevented by adjustment in operation shall not be used.

The asphalt paver shall operate independently of the vehicle being unloaded or shall be capable of propelling the vehicle being unloaded in a satisfactory manner and, if necessary, the load of the haul vehicle shall be limited to that which will insure satisfactory spreading. While being unloaded the haul vehicle shall be in contact with the machine at all times, and the brakes on the haul vehicle shall not be depended upon to maintain contact between the vehicle and the machine.

The procedure whereby material is deposited in a windrow, then picked up and placed in the asphalt paver with loading equipment will be permitted for all asphalt concrete except Open Graded, provided the asphalt paver is of such design that the material will fall into a hopper which has a movable bottom conveyor to feed the screed and the loading equipment is constructed so that substantially all of the material deposited on the roadbed is picked up and deposited in the paving machine.

The controls on the asphalt paver shall be capable of working in conjunction with any of the following attachments:

- Ski-type device not less than 25 feet in length.
- Taut stringline (wire) set to grade
- Laser

The 25-foot ski is required for all overlays unless waived by the ENGINEER.

No portion of the weight of hauling or loading equipment, other than the connection, shall be supported by the asphalt paver, and no vibrations or other motions of the loader, which could have a detrimental effect on the riding quality of the completed pavement, shall be transmitted to the paver.

**8-4.2 COMPACTING EQUIPMENT.** For each asphalt paver, the CONTRACTOR shall furnish sufficient number of rollers to achieve the compaction and surface finish required by these SPECIFICATIONS. Each roller shall have a separate operator. All rolling equipment shall be self-propelled and reversible.

All rollers shall be equipped with pads and water systems which prevent sticking of asphalt mixtures to the pneumatic- or steel-tired wheels. A parting agent, which will not damage the asphalt mixture as determined by the ENGINEER, may be used to aid in preventing the sticking of the mixture to the wheels.

Other equipment, approved by the ENGINEER in accordance with California Test 113, may be substituted for 3-wheel or tandem rollers when used as specified in Paragraph 8-3.3, "Compacting."

Pneumatic-tired rollers shall be the oscillating type having a width of not less than 4 feet with pneumatic tires of equal size, diameter and having treads satisfactory to the ENGINEER. Wobble-wheel rollers will not be permitted. The tires shall be spaced so that the gaps between adjacent tires will be covered by the following tires, or shall be spaced so that any resulting uncovered gap will not exceed 1-1/2 inches in width when the tires are inflated to 90 psi and the operating weight is 2,000 pounds per tire.

When the pneumatic-tired roller furnished by the CONTRACTOR is constructed so that there is a resulting gap between tire tracks as permitted in the preceding paragraph, the complete coverages of asphalt concrete with the roller required in Paragraph 8-3.3, "Compacting", shall be increased by one complete coverage for each 1/2 inch, or fraction thereof, of the maximum uncovered gap between any 2 tire tracks.

The tires shall be inflated to 90 psi, or such lower pressure as designated by the ENGINEER, and maintained so that the air pressure will not vary more than 5 psi from the designated pressure. Pneumatic-tired rollers shall be constructed so that the total weight of the roller can be varied to produce an operating weight per tire of not less than 2,000 pounds. The total operating weight of the roller shall be varied as directed by the ENGINEER.

#### **METHOD OF MEASUREMENT**

**8-5.1** Asphalt concrete pavement shall be measured by the number of tons of bituminous mixture used in the accepted work.

#### **BASIS OF PAYMENT**

**8-6.1** Payment for asphalt concrete surface course shall be made at the contract unit price per ton.

Asphalt concrete in a lot that is accepted on the basis of reduced payment will be paid for at the contract prices for the items of asphalt concrete involved, adjusted by the factors detailed in Paragraph 8-3.4. Price adjustments for deficiencies in pavement thickness shall be according to Paragraph 8-3.6. If payment factors for both thickness and mass density apply, the reduced price will be determined by successively multiplying the contract price by both pay factors.

**END OF SECTION**

**DIVISION V**  
**SECTION 9**  
**PORTLAND CEMENT CONCRETE**

**GENERAL**

**9-1.1 DESCRIPTION.** Portland cement concrete shall be composed of cementitious material, fine aggregate, coarse aggregate, admixtures if used, and water, proportioned and mixed as specified in these specifications.

The CONTRACTOR shall determine the mix proportions for concrete in conformance with these specifications. Unless otherwise specified, cementitious material shall be a combination of cement and mineral admixture. Cementitious material shall be either:

- a. "Type IP (MS) Modified" cement; or
- b. A combination of "Type II Modified" portland cement and mineral admixture; or
- c. A combination of Type V portland cement and mineral admixture.

Type III portland cement shall be used only as allowed in the special provisions or with the approval of the ENGINEER.

Class 1 concrete shall contain not less than 675 pounds of cementitious material per cubic yard.

Class 2 concrete shall contain not less than 590 pounds of cementitious material per cubic yard.

Class 3 concrete shall contain not less than 505 pounds of cementitious material per cubic yard.

Class 4 concrete shall contain not less than 420 pounds of cementitious material per cubic yard.

Minor concrete shall contain not less than 550 pounds of cementitious material per cubic yard unless otherwise specified in these specifications or the special provisions.

Unless otherwise designated on the PLANS or specified in these SPECIFICATIONS or the Special Provisions, the amount of cementitious material used per cubic yard of concrete in structures or portions of structures shall conform to the following:

Use	Cementitious Material Content pounds/CY
Concrete designated by compressive strength:	
Deck slabs and slab spans of bridges	675 min., 800 max.
Roof sections of exposed top box culverts	675 min., 800 max.
Other portions of structures	590 min., 800 max.
Concrete not designated by compressive strength:	
Deck slabs and slab spans of bridges	675 min.
Roof sections of exposed top box culverts	675 min.
Prestressed members	675 min.
Seal courses	675 min.
Other portions of structures	590 min.
Concrete for precast members	590 min., 925 max.

Whenever the 28-day compressive strength shown on the PLANS is greater than 3,600 psi, the concrete shall be designated by compressive strength. If the PLANS show a 28-day compressive strength that is 4,000 psi or greater, an additional 14 days will be allowed to obtain the specified strength. The 28-day compressive strengths shown on the PLANS that are 3,600 psi or less are shown for design information only and are not a requirement for acceptance of the concrete.

Concrete designated by compressive strength shall be proportioned such that the concrete will attain the strength shown on the PLANS or specified in the special provisions.

Before using concrete for which the mix proportions have been determined by the CONTRACTOR, or in advance of revising those mix proportions, the CONTRACTOR shall submit in writing to the ENGINEER a copy of the mix design.

Compliance with cementitious material content requirements will be verified in conformance with procedures described in California Test 518 for cement content. For testing purposes, mineral admixture shall be considered to be cement. Batch proportions shall be adjusted as necessary to produce concrete having the specified cementitious material content.

If any concrete has a cementitious material, portland cement, or mineral admixture content that is less than the minimum required, the concrete shall be removed. However, if the ENGINEER determines that the concrete is structurally adequate, the concrete may remain in place and the CONTRACTOR shall pay to the State \$0.25 for each pound of cementitious material, portland cement, or mineral admixture that is less than the minimum required. The Department may deduct the amount from any moneys due, or that may become due, the CONTRACTOR under the contract. The deductions will not be made unless the difference between the contents required and those actually provided exceeds the batching tolerances permitted by Section 90-5, "Proportioning." No deductions will be made based on the results of California Test 518.

The requirements of the preceding paragraph shall not apply to minor concrete or commercial quality concrete.

## **. MATERIALS**

**9-2.1 CEMENT.** Unless otherwise specified, cement shall be either "Type IP (MS) Modified" cement, "Type II Modified" portland cement or Type V portland cement.

"Type IP (MS) Modified" cement shall conform to the requirements for Type IP (MS) cement in ASTM Designation: C 595, and shall be comprised of an intimate and uniform blend of Type II cement and not more than 35 percent by weight of mineral admixture. The type and minimum amount of mineral admixture used in the manufacture of "Type IP (MS) Modified" cement shall be in conformance with the provisions in Section 90-4.08, "Required Use of Mineral Admixtures."

"Type II Modified" portland cement shall conform to the requirements for Type II portland cement in ASTM Designation: C 150-02a.

In addition, "Type IP (MS) Modified" cement and "Type II Modified" portland cement shall conform to the following requirements:

- A. The cement shall not contain more than 0.60-percent by weight of alkalis, calculated as the percentage of  $\text{Na}_2\text{O}$  plus 0.658 times the percentage of  $\text{K}_2\text{O}$ , when determined by either direct intensity flame photometry or by the atomic absorption method. The instrument and procedure used shall be qualified as to precision and accuracy in conformance with the requirements in ASTM Designation: C 114;
- B. The autoclave expansion shall not exceed 0.50-percent; and
- C. Mortar, containing the cement to be used and Ottawa sand, when tested in conformance with California Test 527, shall not expand in water more than 0.010-percent and shall not contract in air more than 0.048-percent, except that when cement is to be used for precast prestressed concrete piling, precast prestressed concrete members, or steam cured concrete products, the mortar shall not contract in air more than 0.053-percent.

Type III and Type V portland cements shall conform to the requirements in ASTM Designation: C 150-02a and the additional requirements listed above for "Type II Modified" portland cement, except that when tested in conformance with California Test 527, mortar containing Type III portland cement shall not contract in air more than 0.075-percent.

Cement used in the manufacture of cast-in-place concrete for exposed surfaces of like elements of a structure shall be from the same cement mill.

Cement shall be protected from exposure to moisture until used. Sacked cement shall be piled to permit access for tally, inspection, and identification of each shipment.

Adequate facilities shall be provided to assure that cement meeting the provisions specified in this Section 90-2.01 shall be kept separate from other cement in order to prevent any but the specified cement from entering the work. Safe and suitable facilities for sampling cement shall be provided at the weigh hopper or in the feed line immediately in advance of the hopper, in conformance with California Test 125.

If cement is used prior to sampling and testing as provided in Section 6-1.07, "Certificates of Compliance," and the cement is delivered directly to the site of the work, the Certificate of Compliance shall be signed by the cement manufacturer or supplier of the cement. If the cement is used in ready-mixed concrete or in precast concrete products purchased as such by the CONTRACTOR, the Certificate of Compliance shall be signed by the manufacturer of the concrete or product.

Cement furnished without a Certificate of Compliance shall not be used in the work until the Engineer has had sufficient time to make appropriate tests and has approved the cement for use.

**9-2.2 AGGREGATES.** Aggregates shall be free from deleterious coatings, clay balls, roots, bark, sticks, rags, and other extraneous material.

Natural aggregates shall be thoroughly and uniformly washed before use.

The CONTRACTOR, at the CONTRACTOR's expense, shall provide safe and suitable facilities, including necessary splitting devices for obtaining samples of aggregates, in conformance with California Test 125.

Aggregates shall be of such character that it will be possible to produce workable concrete within the limits of water content provided in Section 90-6.06, "Amount of Water and Penetration."

Aggregates shall have not more than 10 percent loss when tested for soundness in conformance with the requirements in California Test 214. The soundness requirement for fine aggregate will be waived, provided that the durability index,  $D_f$ , of the fine aggregate is 60, or greater, when tested for durability in conformance with California Test 229.

If the results of any one or more of the Cleanness Value, Sand Equivalent, or aggregate grading tests do not meet the requirements specified for "Operating Range" but all meet the "Contract Compliance" requirements, the placement of concrete shall be suspended at the completion of the current pour until tests or other information indicate that the next material to be used in the work will comply with the requirements specified for "Operating Range."

If the results of either or both the Cleanness Value and coarse aggregate grading tests do not meet the requirements specified for "Contract Compliance," the concrete that is represented by the tests shall be removed. However, if the ENGINEER determines that the concrete is structurally adequate, the concrete may remain in place, and the CONTRACTOR shall pay to the State \$3.50 per cubic yard for paving concrete and \$5.50 per cubic yard for the concrete represented by these tests and left in place. The Department may deduct the amount from any moneys due, or that may become due, the CONTRACTOR under the contract.

If the results of either or both the Sand Equivalent and fine aggregate grading tests do not meet the requirements specified for "Contract Compliance," the concrete which is represented by the tests shall be removed. However, if the ENGINEER determines that the concrete is structurally adequate, the concrete may remain in place, and the CONTRACTOR shall pay to the State \$3.50 per cubic yard for paving concrete and \$5.50 per cubic yard for the concrete represented by these tests and left in place. The Department may deduct the amount from any moneys due, or that may become due, the CONTRACTOR under the contract.

The 2 preceding paragraphs apply individually to the "Contract Compliance" requirements for coarse aggregate and fine aggregate. When both coarse aggregate and fine aggregate do not conform to the "Contract Compliance" requirements, both paragraphs shall apply. The payments specified in those paragraphs shall be in addition to any payments made in conformance with the provisions in Section 9-1.1, "Description."

No single Cleanness Value, Sand Equivalent or aggregate grading test shall represent more than 300 cubic yards of concrete or one day's pour, whichever is smaller.

When the source of an aggregate is changed, the CONTRACTOR shall adjust the mix proportions and submit in writing to the ENGINEER a copy of the mix design before using the aggregates.

**A. Coarse Aggregate.**

Coarse aggregate shall consist of gravel, crushed gravel, crushed rock, crushed air-cooled iron blast furnace slag or combinations thereof. Crushed air-cooled blast furnace slag shall not be used in reinforced or prestressed concrete.



Coarse aggregate shall conform to the following quality requirements:

Tests	California Test	Requirements
Loss in Los Angeles Rattler (after 500 revolutions)	211	45% max.
Cleanness Value		
Operating Range	227	75 min.
Contract Compliance	227	71 min.

In lieu of the above Cleanness Value requirements, a Cleanness Value "Operating Range" limit of 71, minimum, and a Cleanness Value "Contract Compliance" limit of 68, minimum, will be used to determine the acceptability of the coarse aggregate if the CONTRACTOR furnishes a Certificate of Compliance, as provided in Section 6-1.07, "Certificates of Compliance," certifying that:

- a. coarse aggregate sampled at the completion of processing at the aggregate production plant had a Cleanness Value of not less than 82 when tested by California Test 227; and
- b. prequalification tests performed in conformance with the requirements in California Test 549 indicated that the aggregate would develop a relative strength of not less than 95 percent and would have a relative shrinkage not greater than 105 percent, based on concrete.

**B. Fine Aggregate**

Fine aggregate shall consist of natural sand, manufactured sand produced from larger aggregate or a combination thereof. Manufactured sand shall be well graded.

Fine aggregate shall conform to the following quality requirements:

Test	California Test	Requirements
Organic Impurities	213	Satisfactory <sup>a</sup>
Mortar Strengths Relative to Ottawa Sand	515	95%, min.
Sand Equivalent:	217	
Operating Range		75, min.
Contract Compliance		71, min.

<sup>a</sup> Fine aggregate developing a color darker than the reference standard color solution may be accepted if it is determined by the ENGINEER, from mortar strength tests, that a darker color is acceptable.

In lieu of the above Sand Equivalent requirements, a Sand Equivalent "Operating Range" limit of 71 minimum and a Sand Equivalent "Contract Compliance" limit of 68 minimum will be used to determine the acceptability of the fine aggregate if the CONTRACTOR furnishes a Certificate of Compliance, as provided in Section 6-1.07, "Certificates of Compliance," certifying that:

- a. fine aggregate sampled at the completion of processing at the aggregate production plant had a Sand Equivalent value of not less than 82 when tested by California Test 217; and

- b. prequalification tests performed in conformance with California Test 549 indicated that the aggregate would develop a relative strength of not less than 95 percent and would have a relative shrinkage not greater than 105 percent, based on concrete.

**9-2.3 WATER** In conventionally reinforced concrete work, the water for curing, for washing aggregates, and for mixing shall be free from oil and shall not contain more than 1,000 parts per million of chlorides as Cl, when tested in conformance with California Test 422, nor more than 1,300 parts per million of sulfates as SO<sub>4</sub>, when tested in conformance with California Test 417. In prestressed concrete work, the water for curing, for washing aggregates, and for mixing shall be free from oil and shall not contain more than 650 parts per million of chlorides as Cl, when tested in conformance with California Test 422, nor more than 1,300 parts per million of sulfates as SO<sub>4</sub>, when tested in conformance with California Test 417. In no case shall the water contain an amount of impurities that will cause either:

- 1) a change in the setting time of cement of more than 25 percent when tested in conformance with the requirements in ASTM Designation: C 191 or ASTM Designation: C 266; or
- 2) a reduction in the compressive strength of mortar at 14 days of more than 5 percent when tested in conformance with the requirements in ASTM Designation: C 109, compared to the results obtained with distilled water or deionized water tested in conformance with the requirements in ASTM Designation: C 109.

In non-reinforced concrete work, the water for curing, for washing aggregates and for mixing shall be free from oil and shall not contain more than 2,000 parts per million of chlorides as Cl, when tested in conformance with California Test 422, or more than 1,500 parts per million of sulfates as SO<sub>4</sub>, when tested in conformance with California Test 417.

In addition to the above provisions, water for curing concrete shall not contain impurities in a sufficient amount to cause discoloration of the concrete or produce etching of the surface.

Water reclaimed from mixer wash-out operations may be used in mixing concrete. The water shall not contain coloring agents or more than 300 parts per million of alkalis (Na<sub>2</sub>O + 0.658 K<sub>2</sub>O) as determined on the filtrate. The specific gravity of the water shall not exceed 1.03 and shall not vary more than ±0.010 during a day's operations.

**9-2.4 ADMIXTURE MATERIALS.** Admixture materials shall conform to the requirements in the following ASTM Designations:

- A. **Chemical Admixtures**—ASTM Designation: C 494.
- B. **Air-entraining Admixtures**—ASTM Designation: C 260.
- C. **Calcium Chloride**—ASTM Designation: D 98.
- D. **Mineral Admixtures**—Coal fly ash; raw or calcined natural pozzolan as specified in ASTM Designation: C 618; silica fume conforming to the requirements in ASTM Designation: C 1240, with reduction of mortar expansion of 80 percent, minimum, using the cement from the proposed mix design.

Unless otherwise specified in the special provisions, mineral admixtures shall be used in conformance with the provisions in Subsection 9-4.8, "Required Use of Mineral Admixtures."

## AGGREGATE GRADINGS

**9-3.1 GENERAL.** Before beginning concrete work, the CONTRACTOR shall submit in writing to the ENGINEER the gradation of the primary aggregate nominal sizes that the CONTRACTOR proposes to furnish. If a primary coarse aggregate or the fine aggregate is separated into 2 or more sizes, the proposed gradation shall consist of the gradation for each individual size, and the proposed proportions of each individual size, combined mathematically to indicate one proposed gradation. The proposed gradation shall meet the grading requirements shown in the table in this section, and shall show the percentage passing each of the sieve sizes used in determining the end result.

The ENGINEER may waive, in writing, the gradation requirements in this Section 90-3.01 and in Sections 90-3.02, "Coarse Aggregate Grading," 90-3.03, "Fine Aggregate Grading," and 90-3.04, "Combined Aggregate Gradings," if, in the ENGINEER's opinion, furnishing the gradation is not necessary for the type or amount of concrete work to be constructed.

Gradations proposed by the CONTRACTOR shall be within the following percentage passing limits:

Primary Aggregate Nominal Size	Sieve Size	Limits of Proposed Gradation
1 1/2" x 3/4"	1"	19 - 41
1" x No. 4	3/4"	52 - 85
1" x No. 4	3/8"	15 - 38
1/2" x No. 4	3/8"	40 - 78
3/8" x No. 8	3/8"	50 - 85
Fine Aggregate	No. 16	55 - 75
Fine Aggregate	No. 30	34 - 46
Fine Aggregate	No. 50	16 - 29

Should the CONTRACTOR change the source of supply, the CONTRACTOR shall submit in writing to the ENGINEER the new gradations before their intended use.

**9-3.2 COARSE AGGREGATE GRADING.** The grading requirements for coarse aggregates are shown in the following tables for each size of coarse aggregate:

**Percentage Passing Primary Aggregate Nominal Sizes**

Sieve Sizes	1 1/2" x 3/4"		1" x No. 4	
	Operating Range	Contract Compliance	Operating Range	Contract Compliance
2"	100	100	—	—
1 1/2"	88-100	85-100	100	100
1"	X ± 18	X ± 25	88-100	86-100
3/4"	0-17	0-20	X ± 15	X ± 22
1/2"	—	—	—	—
3/8"	0-7	0-9	X ± 15	X ± 22
No. 4	—	—	0-16	0-18
No. 8	—	—	0-6	0-7

Sieve Sizes	1/2" x No. 4		3/8" x No. 8	
	Operating Range	Contract Compliance	Operating Range	Contract Compliance
2"	—	—	—	—
1 1/2"	—	—	—	—
1"	—	—	—	—
3/4"	100	100	—	—
1/2"	82-100	80-100	100	100
3/8"	X ± 15	X ± 22	X ± 15	X ± 20
No. 4	0-15	0-18	0-25	0-28
No. 8	0-6	0-7	0-6	0-7

In the above tables, the symbol X is the gradation that the CONTRACTOR proposes to furnish for the specific sieve size as provided in Subsection 9-3.1, "General."

Coarse aggregate for the 1 1/2-inch, maximum, combined aggregate grading as provided in Subsection 9-3.4, "Combined Aggregate Gradings," shall be furnished in 2 or more primary aggregate nominal sizes. Each primary aggregate nominal size may be separated into 2 sizes and stored separately, provided that the combined material conforms to the grading requirements for that particular primary aggregate nominal size.

When the one-inch, maximum, combined aggregate grading as provided in Subsection 9-3.4, "Combined Aggregate Gradings," is to be used, the coarse aggregate may be separated into 2 sizes and stored separately, provided that the combined material shall conform to the grading requirements for the 1" x No. 4 primary aggregate nominal size.

**9-3.3 FINE AGGREGATE GRADING.** Fine aggregate shall be graded within the following limits:

Sieve Sizes	Percentage Passing	
	Operating Range	Contract Compliance
3/8"	100	100
No. 4	95-100	93-100
No. 8	65-95	61-99
No. 16	X ± 10	X ± 13
No. 30	X ± 9	X ± 12
No. 50	X ± 6	X ± 9
No. 100	2-12	1-15
No. 200	0-8	0-10

In the above table, the symbol X is the gradation that the CONTRACTOR proposes to furnish for the specific sieve size as provided in Subsection 9-3.1, "General."

In addition to the above required grading analysis, the distribution of the fine aggregate sizes shall be such that the difference between the total percentage passing the No. 16 sieve and the total percentage

passing the No. 30 sieve shall be between 10 and 40, and the difference between the percentage passing the No. 30 and No. 50 sieves shall be between 10 and 40.

Fine aggregate may be separated into 2 or more sizes and stored separately, provided that the combined material conforms to the grading requirements specified in this Subsection 9-3.3.

**9-3.4 COMBINED AGGREGATE GRADINGS.** Combined aggregate grading limits shall be used only for the design of concrete mixes. Concrete mixes shall be designed so that aggregates are combined in proportions that shall produce a mixture within the grading limits for combined aggregates as specified herein.

The combined aggregate grading, except when otherwise specified in these specifications or the special provisions, shall be either the 1 1/2-inch, maximum grading, or the one-inch, maximum grading, at the option of the CONTRACTOR.

Sieve Sizes	Percentage Passing			
	1 1/2" Max.	1" Max.	1/2" Max.	3/8" Max.
2"	100	—	—	—
1 1/2"	90-100	100	—	—
1"	50-86	90-100	—	—
3/4"	45-75	55-100	100	—
1/2"	—	—	90-100	100
3/8"	38-55	45-75	55-86	50 - 100
No. 4	30-45	35-60	45-63	45 - 63
No. 8	23-38	27-45	35-49	35 - 49
No. 16	17-33	20-35	25-37	25 - 37
No. 30	10-22	12-25	15-25	15 - 25
No. 50	4-10	5-15	5-15	5 - 15
No. 100	1-6	1-8	1-8	1 - 8
No. 200	0-3	0-4	0-4	0 - 4

Changes from one grading to another shall not be made during the progress of the work unless permitted by the ENGINEER.

#### ADMIXTURES

**9-4.1 GENERAL.** Admixtures used in portland cement concrete shall conform to and be used in conformance with the provisions in this Section and the special provisions. Admixtures shall be used when specified or ordered by the ENGINEER and may be used at the CONTRACTOR's option as provided herein.

Chemical admixtures and air-entraining admixtures containing chlorides as Cl in excess of one percent by weight of admixture, as determined by California Test 415, shall not be used in prestressed or reinforced concrete.

Calcium chloride shall not be used in concrete except when otherwise specified.

Mineral admixture used in concrete for exposed surfaces of like elements of a structure shall be from the same source and of the same percentage.

Admixtures shall be uniform in properties throughout their use in the work. Should it be found that an admixture as furnished is not uniform in properties, its use shall be discontinued.

If more than one admixture is used, the admixtures shall be compatible with each other so that the desirable effects of all admixtures used will be realized.

**9-4.2 MATERIALS.** Admixture materials shall conform to the provisions in Section 90-2.04, "Admixture Materials."

**9-4.3 ADMIXTURE APPROVAL.** No admixture brand shall be used in the work unless it is on the Department's current list of approved brands for the type of admixture involved.

Admixture brands will be considered for addition to the approved list if the manufacturer of the admixture submits to the Transportation Laboratory a sample of the admixture accompanied by certified test results demonstrating that the admixture complies with the requirements in the appropriate ASTM Designation and these specifications. The sample shall be sufficient to permit performance of all required tests. Approval of admixture brands will be dependent upon a determination as to compliance with the requirements, based on the certified test results submitted, together with tests the Department may elect to perform.

When the CONTRACTOR proposes to use an admixture of a brand and type on the current list of approved admixture brands, the CONTRACTOR shall furnish a Certificate of Compliance from the manufacturer, as provided in Section 6-1.07, "Certificates of Compliance," certifying that the admixture furnished is the same as that previously approved. If a previously approved admixture is not accompanied by a Certificate of Compliance, the admixture shall not be used in the work until the ENGINEER has had sufficient time to make the appropriate tests and has approved the admixture for use. The ENGINEER may take samples for testing at any time, whether or not the admixture has been accompanied by a Certificate of Compliance.

If a mineral admixture is delivered directly to the site of the work, the Certificate of Compliance shall be signed by the manufacturer or supplier of the mineral admixture. If the mineral admixture is used in ready-mix concrete or in precast concrete products purchased as such by the CONTRACTOR, the Certificate of Compliance shall be signed by the manufacturer of the concrete or product.

**9-4.4 REQUIRED USE OF CHEMICAL ADMIXTURES AND CALCIUM CHLORIDE.** When the use of a chemical admixture or calcium chloride is specified, the admixture shall be used at the dosage specified, except that if no dosage is specified, the admixture shall be used at the dosage normally recommended by the manufacturer of the admixture.

Calcium chloride shall be dispensed in liquid, flake, or pellet form. Calcium chloride dispensed in liquid form shall conform to the provisions for dispensing liquid admixtures in Section 90-4.10, "Proportioning and Dispensing Liquid Admixtures."

**9-4.5 OPTIONAL USE OF CHEMICAL ADMIXTURES.** The CONTRACTOR will be permitted to use Type A or F, water-reducing; Type B, retarding; or Type D or G, water-reducing and retarding admixtures as described in ASTM Designation: C 494 to conserve cementitious material or to facilitate any concrete construction application subject to the following conditions:

- A. When a water-reducing admixture or a water-reducing and retarding admixture is used, the cementitious material content specified or ordered may be reduced by a maximum of 5 percent by weight, except that the resultant cementitious material content shall be not less than 505 pounds per cubic yard, and
- B. When a reduction in cementitious material content is made, the dosage of admixture used shall be the dosage used in determining approval of the admixture.

Unless otherwise specified, a Type C accelerating chemical admixture conforming to the requirements in ASTM Designation: C 494, may be used in portland cement concrete. Inclusion in the mix design submitted for approval will not be required provided that the admixture is added to counteract changing conditions that contribute to delayed setting of the portland cement concrete, and the use or change in dosage of the admixture is approved in writing by the ENGINEER.

**9-4.6 REQUIRED USE OF AIR-ENTRAINING ADMIXTURES.** When air-entrainment is specified or ordered by the ENGINEER, the air-entraining admixture shall be used in amounts to produce a concrete having the specified air content as determined by California Test 504.

**9-4.7 OPTIONAL USE OF AIR-ENTRAINING ADMIXTURES.** When air-entrainment has not been specified or ordered by the ENGINEER, the CONTRACTOR will be permitted to use an air-entraining admixture to facilitate the use of any construction procedure or equipment provided that the average air content, as determined by California Test 504, of 3 successive tests does not exceed 4 percent, and no single test value exceeds 5.5 percent. If the CONTRACTOR elects to use an air-entraining admixture in concrete for pavement, the CONTRACTOR shall so indicate at the time the CONTRACTOR designates the source of aggregate as provided in Section 40-1.015, "Cement Content."

**9-4.8 REQUIRED USE OF MINERAL ADMIXTURES.** Unless otherwise specified, mineral admixture shall be combined with cement to make cementitious material.

The calcium oxide content shall not exceed 10 percent when determined in conformance with the requirements in ASTM Designation: C 114. The available alkali content (as sodium oxide equivalent) shall not exceed 1.5 percent when determined in conformance with the requirements in ASTM Designation: C 311, or the total alkali content (as sodium oxide equivalent) shall not exceed 5.0 percent when determined in conformance with the requirements in ASTM Designation: D 4326.

The amounts of cement and mineral admixture used in cementitious material shall be sufficient to satisfy the minimum cementitious material content requirements specified in Subsection 9-1.1, "Description," or Subsection 9-4.5, "Optional Use of Chemical Admixtures," and shall conform to the following:

- A. The minimum amount of cement shall not be less than 75 percent by weight of the specified minimum cementitious material content;

- B. The minimum amount of mineral admixture to be combined with cement shall be determined using one of the following criteria:
1. When the calcium oxide content of a mineral admixture is equal to or less than 2 percent by weight, the amount of mineral admixture shall not be less than 15 percent by weight of the total amount of cementitious material to be used in the mix;
  2. When the calcium oxide content of a mineral admixture is greater than 2 percent, the amount of mineral admixture shall not be less than 25 percent by weight of the total amount of cementitious material to be used in the mix;
  3. When a mineral admixture that conforms to the provisions for silica fume in Subsection 9-2.4, "Admixture Materials," is used, the amount of mineral admixture shall not be less than 10 percent by weight of the total amount of cementitious material to be used in the mix.
- C. The total amount of mineral admixture shall not exceed 35 percent by weight of the total amount of cementitious material to be used in the mix. Where Subsection 9-1.1, "Description," specifies a maximum cementitious content in pounds per cubic yard, the total weight of cement and mineral admixture per cubic yard shall not exceed the specified maximum cementitious material content.

**9-4.10 PROPORTIONING AND DISPENSING LIQUID ADMIXTURES.** Chemical admixtures and air-entraining admixtures shall be dispensed in liquid form. Dispensers for liquid admixtures shall have sufficient capacity to measure at one time the prescribed quantity required for each batch of concrete. Each dispenser shall include a graduated measuring unit into which liquid admixtures are measured to within  $\pm 5$  percent of the prescribed quantity for each batch. Dispensers shall be located and maintained so that the graduations can be accurately read from the point at which proportioning operations are controlled to permit a visual check of batching accuracy prior to discharge. Each measuring unit shall be clearly marked for the type and quantity of admixture.

Each liquid admixture dispensing system shall be equipped with a sampling device consisting of a valve located in a safe and readily accessible position such that a sample of the admixture may be withdrawn slowly by the ENGINEER.

If more than one liquid admixture is used in the concrete mix, each liquid admixture shall have a separate measuring unit and shall be dispensed by injecting equipment located in such a manner that the admixtures are not mixed at high concentrations and do not interfere with the effectiveness of each other. When air-entraining admixtures are used in conjunction with other liquid admixtures, the air-entraining admixture shall be the first to be incorporated into the mix.

When automatic proportioning devices are required for concrete pavement, dispensers for liquid admixtures shall operate automatically with the batching control equipment. The dispensers shall be equipped with an automatic warning system in good operating condition that will provide a visible or audible signal at the point at which proportioning operations are controlled when the quantity of admixture measured for each batch of concrete varies from the preselected dosage by more than 5 percent, or when the entire contents of the measuring unit are not emptied from the dispenser into each batch of concrete.



Unless liquid admixtures are added to premeasured water for the batch, their discharge into the batch shall be arranged to flow into the stream of water so that the admixtures are well dispersed throughout the batch. Air-entraining admixtures may be dispensed directly into moist sand in the batching bins provided that adequate control of the air content of the concrete can be maintained.

Liquid admixtures requiring dosages greater than one-half gallon per cubic yard shall be considered to be water when determining the total amount of free water as specified in Section 90-6.06, "Amount of Water and Penetration."

Special admixtures, such as "high range" water reducers that may contribute to a high rate of slump loss, shall be measured and dispensed as recommended by the admixture manufacturer and as approved by the ENGINEER.

**9-4.11 STORAGE, PROPORTIONING, AND DISPENSING OF MINERAL ADMIXTURES.** Mineral admixtures shall be protected from exposure to moisture until used. Sacked material shall be piled to permit access for tally, inspection, and identification of each shipment.

Adequate facilities shall be provided to assure that mineral admixtures meeting the specified requirements are kept separate from other mineral admixtures in order to prevent any but the specified mineral admixtures from entering the work. Safe and suitable facilities for sampling mineral admixtures shall be provided at the weigh hopper or in the feed line immediately in advance of the hopper.

Mineral admixtures shall be incorporated into concrete using equipment conforming to the requirements for cement weigh hoppers, and charging and discharging mechanisms in ASTM Designation: C 94, in Subsection 9-5.3, "Proportioning," and in this Subsection 9-4.11.

When concrete is completely mixed in stationary paving mixers, the mineral admixture shall be weighed in a separate weigh hopper conforming to the provisions for cement weigh hoppers and charging and discharging mechanisms in Subsection 9-5.3A, "Proportioning for Pavement," and the mineral admixture and cement shall be introduced simultaneously into the mixer proportionately with the aggregate. If the mineral admixture is not weighed in a separate weigh hopper, the CONTRACTOR shall provide certification that the stationary mixer is capable of mixing the cement, admixture, aggregates and water uniformly prior to discharge. Certification shall contain the following:

- a. Test results for 2 compressive strength test cylinders of concrete taken within the first third and 2 compressive strength test cylinders of concrete taken within the last third of the concrete discharged from a single batch from the stationary paving mixer. Strength tests and cylinder preparation will be in conformance with the provisions of Section 90-9, "Compressive Strength;"
- b. Calculations demonstrating that the difference in the averages of 2 compressive strengths taken in the first third is no greater than 7.5 percent different than the averages of 2 compressive strengths taken in the last third of the concrete discharged from a single batch from the stationary paving mixer. Strength tests and cylinder preparation will be in conformance with the provisions of Section, "Compressive Strength;" and
- c. The mixer rotation speed and time of mixing prior to discharge that are required to produce a mix that meets the requirements above.

## PROPORTIONING

**9-5.1 STORAGE OF AGGREGATES.** Aggregates shall be stored or stockpiled in such a manner that separation of coarse and fine particles of each size shall be avoided and also that the various sizes shall not become intermixed before proportioning.

Aggregates shall be stored or stockpiled and handled in a manner that shall prevent contamination by foreign materials. In addition, storage of aggregates at batching or mixing facilities that are erected subsequent to the award of the contract and that furnish concrete to the project shall conform to the following:

- a. Intermingling of the different sizes of aggregates shall be positively prevented. The CONTRACTOR shall take the necessary measures to prevent intermingling. The preventive measures may include, but are not necessarily limited to, physical separation of stockpiles or construction of bulkheads of adequate length and height; and
- b. Contamination of aggregates by contact with the ground shall be positively prevented. The CONTRACTOR shall take the necessary measures to prevent contamination. The preventive measures shall include, but are not necessarily limited to, placing aggregates on wooden platforms or on hardened surfaces consisting of portland cement concrete, asphalt concrete, or cement treated material.

In placing aggregates in storage or in moving the aggregates from storage to the weigh hopper of the batching plant, any method that may cause segregation, degradation, or the combining of materials of different gradings that will result in any size of aggregate at the weigh hopper failing to meet the grading requirements, shall be discontinued. Any method of handling aggregates that results in excessive breakage of particles shall be discontinued. The use of suitable devices to reduce impact of falling aggregates may be required by the ENGINEER.

**9-5.2 PROPORTIONING DEVICES.** Weighing, measuring, or metering devices used for proportioning materials shall conform to the requirements in Section 9-1.01, "Measurement of Quantities," and this Section 90-5.02. In addition, automatic weighing systems shall comply with the requirements for automatic proportioning devices in Section 90-5.03A, "Proportioning for Pavement." Devices shall be automatic to the extent that the only manual operation required for proportioning the aggregates, cement, and mineral admixture for one batch of concrete is a single operation of a switch or starter.

Proportioning devices shall be tested at the expense of the CONTRACTOR as frequently as the ENGINEER may deem necessary to ensure their accuracy.

Weighing equipment shall be insulated against vibration or movement of other operating equipment in the plant. When the plant is in operation, the weight of each batch of material shall not vary from the weight designated by the ENGINEER by more than the tolerances specified herein.

Equipment for cumulative weighing of aggregate shall have a zero tolerance of  $\pm 0.5$ -percent of the designated total batch weight of the aggregate. For systems with individual weigh hoppers for the various sizes of aggregate, the zero tolerance shall be  $\pm 0.5$ -percent of the individual batch weight designated for each size of aggregate. Equipment for cumulative weighing of cement and mineral admixtures shall have a zero tolerance of  $\pm 0.5$ -percent of the designated total batch weight of the cement and mineral

admixture. Equipment for weighing cement or mineral admixture separately shall have a zero tolerance of  $\pm 0.5$ -percent of their designated individual batch weights. Equipment for measuring water shall have a zero tolerance of  $\pm 0.5$ -percent of its designated weight or volume.

The weight indicated for any batch of material shall not vary from the preselected scale setting by more than the following:

- a. Aggregate weighed cumulatively shall be within 1.0 percent of the designated total batch weight of the aggregate. Aggregates weighed individually shall be within 1.5 percent of their respective designated batch weights;
- b. Cement shall be within 1.0 percent of its designated batch weight. When weighed individually, mineral admixture shall be within 1.0 percent of its designated batch weight. When mineral admixture and cement are permitted to be weighed cumulatively, cement shall be weighed first to within 1.0 percent of its designated batch weight, and the total for cement and mineral admixture shall be within 1.0 percent of the sum of their designated batch weights; and
- c. Water shall be within 1.5 percent of its designated weight or volume.

Each scale graduation shall be approximately 0.001 of the total capacity of the scale. The capacity of scales for weighing cement, mineral admixture, or cement plus mineral admixture and aggregates shall not exceed that of commercially available scales having single graduations indicating a weight not exceeding the maximum permissible weight variation above, except that no scale shall be required having a capacity of less than 1,000 pounds, with one-pound graduations.

**9-5.3 PROPORTIONING.** Proportioning shall consist of dividing the aggregates into the specified sizes, each stored in a separate bin, and combining them with cement, mineral admixture, and water as provided in these specifications. Aggregates shall be proportioned by weight.

At the time of batching, aggregates shall have been dried or drained sufficiently to result in a stable moisture content such that no visible separation of water from aggregate will take place during transportation from the proportioning plant to the point of mixing. In no event shall the free moisture content of the fine aggregate at the time of batching exceed 8 percent of its saturated, surface-dry weight.

Should separate supplies of aggregate material of the same size group, but of different moisture content or specific gravity or surface characteristics affecting workability, be available at the proportioning plant, withdrawals shall be made from one supply exclusively and the materials therein completely exhausted before starting upon another.

Bulk "Type IP (MS) Modified" cement shall be weighed in an individual hopper and shall be kept separate from the aggregates until the ingredients are released for discharge into the mixer.

Bulk cement and mineral admixture may be weighed in separate, individual weigh hoppers or may be weighed in the same weigh hopper and shall be kept separate from the aggregates until the ingredients are released for discharge into the mixer. If the cement and mineral admixture are weighed cumulatively, the cement shall be weighed first.

When cement and mineral admixtures are weighed in separate weigh hoppers, the weigh systems for the proportioning of the aggregate, the cement, and the mineral admixture shall be individual and distinct

from all other weigh systems. Each weigh system shall be equipped with a hopper, a lever system, and an indicator to constitute an individual and independent material weighing device. The cement and the mineral admixture shall be discharged into the mixer simultaneously with the aggregate.

The scales and weigh hoppers for bulk weighing cement, mineral admixture, or cement plus mineral admixture shall be separate and distinct from the aggregate weighing equipment.

For batches with a volume of one cubic yard or more, the batching equipment shall conform to one of the following combinations:

- a. Separate boxes and separate scale and indicator for weighing each size of aggregate.
- b. Single box and scale indicator for all aggregates.
- c. Single box or separate boxes and automatic weighing mechanism for all aggregates.

In order to check the accuracy of batch weights, the gross weight and tare weight of batch trucks, truck mixers, truck agitators, and non-agitating hauling equipment shall be determined when ordered by the ENGINEER. The equipment shall be weighed at the CONTRACTOR's expense on scales designated by the ENGINEER.

**A. Proportioning for Pavement.**

Aggregates and bulk cement, mineral admixture, and cement plus mineral admixture for use in pavement shall be proportioned by weight by means of automatic proportioning devices of approved type conforming to these specifications.

The CONTRACTOR shall install and maintain in operating condition an electronically actuated moisture meter that will indicate, on a readily visible scale, changes in the moisture content of the fine aggregate as it is batched within a sensitivity of 0.5-percent by weight of the fine aggregate.

The batching of cement, mineral admixture, or cement plus mineral admixture and aggregate shall be interlocked so that a new batch cannot be started until all weigh hoppers are empty, the proportioning devices are within zero tolerance, and the discharge gates are closed. The interlock shall permit no part of the batch to be discharged until all aggregate hoppers and the cement and mineral admixture hoppers or the cement plus mineral admixture hopper are charged with weights that are within the tolerances specified in Subsection 9-5.2, "Proportioning Devices."

When interlocks are required for cement and mineral admixture charging mechanisms and cement and mineral admixtures are weighed cumulatively, their charging mechanisms shall be interlocked to prevent the introduction of mineral admixture until the weight of cement in the cement weigh hopper is within the tolerances specified in Subsection 9-5.2, "Proportioning Devices."

The discharge gate on the cement and mineral admixture hoppers or the cement plus mineral admixture hopper shall be designed to permit regulating the flow of cement, mineral admixture, or cement plus mineral admixture into the aggregate as directed by the ENGINEER.

When separate weigh boxes are used for each size of aggregate, the discharge gates shall permit regulating the flow of each size of aggregate as directed by the ENGINEER.

Material discharged from the several bins shall be controlled by gates or by mechanical conveyors. The means of withdrawal from the several bins, and of discharge from the weigh box, shall be

interlocked so that not more than one bin can discharge at a time, and so that the weigh box cannot be tripped until the required quantity from each of the several bins has been deposited therein. Should a separate weigh box be used for each size of aggregate, all may be operated and discharged simultaneously.

When the discharge from the several bins is controlled by gates, each gate shall be actuated automatically so that the required weight is discharged into the weigh box, after which the gate shall automatically close and lock.

The automatic weighing system shall be designed so that all proportions required may be set on the weighing controller at the same time.

## MIXING AND TRANSPORTING

**9-6.1 GENERAL.** Concrete shall be mixed in mechanically operated mixers, except that when permitted by the ENGINEER, batches not exceeding a third of a cubic yard may be mixed by hand methods in conformance with the provisions in Subsection 9-6.5, "Hand-Mixing."

Equipment having components made of aluminum or magnesium alloys that would have contact with plastic concrete during mixing, transporting, or pumping of portland cement concrete shall not be used.

Concrete shall be homogeneous and thoroughly mixed, and there shall be no lumps or evidence of undispersed cement, mineral admixture, or cement plus mineral admixture.

Uniformity of concrete mixtures will be determined by differences in penetration as determined by California Test 533, or slump as determined by ASTM Designation: C 143, and by variations in the proportion of coarse aggregate as determined by California Test 529.

When the mix design specifies a penetration value, the difference in penetration, determined by comparing penetration tests on 2 samples of mixed concrete from the same batch or truck mixer load, shall not exceed 1/2 inch. When the mix design specifies a slump value, the difference in slump, determined by comparing slump tests on 2 samples of mixed concrete from the same batch or truck mixer load, shall not exceed the values given in the table below. Variation in the proportion of coarse aggregate will be determined by comparing the results of tests of 2 samples of mixed concrete from the same batch or truck mixer load and the difference between the 2 results shall not exceed 170 pounds per cubic yard of concrete.

Average Slump	Maximum Permissible Difference
Less than 4"	1"
4" to 6"	1 1/2"
Greater than 6" to 9"	2"

The CONTRACTOR, at the CONTRACTOR's expense, shall furnish samples of the freshly mixed concrete and provide satisfactory facilities for obtaining the samples.

**9-6.2 MACHINE MIXING.** Concrete mixers may be of the revolving drum or the revolving blade type, and the mixing drum or blades shall be operated uniformly at the mixing speed recommended by the manufacturer. Mixers and agitators that have an accumulation of hard concrete or mortar shall not be used.

The temperature of mixed concrete, immediately before placing, shall be not less than 50° F or more than 90° F. Aggregates and water shall be heated or cooled as necessary to produce concrete within these temperature limits. Neither aggregates nor mixing water shall be heated to exceed 150° F. If ice is used to cool the concrete, discharge of the mixer will not be permitted until all ice is melted.

The batch shall be so charged into the mixer that some water will enter in advance of cementitious materials and aggregates. All water shall be in the drum by the end of the first fourth of the specified mixing time.

Cementitious materials shall be batched and charged into the mixer by means that will not result either in loss of cementitious materials due to the effect of wind, in accumulation of cementitious materials on surfaces of conveyors or hoppers, or in other conditions that reduce or vary the required quantity of cementitious material in the concrete mixture.

Paving and stationary mixers shall be operated with an automatic timing device. The timing device and discharge mechanism shall be interlocked so that during normal operation no part of the batch will be discharged until the specified mixing time has elapsed.

The total elapsed time between the intermingling of damp aggregates and all cementitious materials and the start of mixing shall not exceed 30 minutes.

The size of batch shall not exceed the manufacturer's guaranteed capacity.

When producing concrete for pavement or base, suitable batch counters shall be installed and maintained in good operating condition at jobsite batching plants and stationary mixers. The batch counters shall indicate the exact number of batches proportioned and mixed.

Concrete shall be mixed and delivered to the jobsite by means of one of the following combinations of operations:

- a. Mixed completely in a stationary mixer and the mixed concrete transported to the point of delivery in truck agitators or in non-agitating hauling equipment (central-mixed concrete).
- b. Mixed partially in a stationary mixer, and the mixing completed in a truck mixer (shrink-mixed concrete).
- c. Mixed completely in a truck mixer (transit-mixed concrete).
- d. Mixed completely in a paving mixer.

Agitators may be truck mixers operating at agitating speed or truck agitators. Each mixer and agitator shall have attached thereto in a prominent place a metal plate or plates on which is plainly marked the various uses for which the equipment is designed, the manufacturer's guaranteed capacity of the drum or

container in terms of the volume of mixed concrete and the speed of rotation of the mixing drum or blades.

Truck mixers shall be equipped with electrically or mechanically actuated revolution counters by which the number of revolutions of the drum or blades may readily be verified.

When shrink-mixed concrete is furnished, concrete that has been partially mixed at a central plant shall be transferred to a truck mixer and all requirements for transit-mixed concrete shall apply. No credit in the number of revolutions at mixing speed shall be allowed for partial mixing in a central plant.

**9-6.3 TRANSPORTING MIXED CONCRETE.** Mixed concrete may be transported to the delivery point in truck agitators or truck mixers operating at the speed designated by the manufacturer of the equipment as agitating speed, or in non-agitating hauling equipment, provided the consistency and workability of the mixed concrete upon discharge at the delivery point is suitable for adequate placement and consolidation in place, and provided the mixed concrete after hauling to the delivery point conforms to the provisions in Subsection 9-6.1, "General."

Truck agitators shall be loaded not to exceed the manufacturer's guaranteed capacity and shall maintain the mixed concrete in a thoroughly mixed and uniform weight during hauling.

Bodies of non-agitating hauling equipment shall be constructed so that leakage of the concrete mix, or any part thereof, will not occur at any time.

Concrete hauled in open-top vehicles shall be protected during hauling against rain or against exposure to the sun for more than 20 minutes when the ambient temperature exceeds 75° F.

No additional mixing water shall be incorporated into the concrete during hauling or after arrival at the delivery point, unless authorized by the ENGINEER. If the ENGINEER authorizes additional water to be incorporated into the concrete, the drum shall be revolved not less than 30 revolutions at mixing speed after the water is added and before discharge is commenced.

The rate of discharge of mixed concrete from truck mixer-agitators shall be controlled by the speed of rotation of the drum in the discharge direction with the discharge gate fully open.

When a truck mixer or agitator is used for transporting concrete to the delivery point, discharge shall be completed within 1.5 hours or before 250 revolutions of the drum or blades, whichever occurs first, after the introduction of the cement to the aggregates. Under conditions contributing to quick stiffening of the concrete, or when the temperature of the concrete is 85° F or above, the time allowed may be less than 1.5 hours.

When non-agitating hauling equipment is used for transporting concrete to the delivery point, discharge shall be completed within one hour after the addition of the cement to the aggregates. Under conditions contributing to quick stiffening of the concrete, or when the temperature of the concrete is 85° F or above, the time between the introduction of cement to the aggregates and discharge shall not exceed 45 minutes.

Each load of concrete delivered at the jobsite shall be accompanied by a weighmaster certificate showing the mix identification number, non-repeating load number, date and time at which the materials were batched, the total amount of water added to the load, and for transit-mixed concrete, the reading of the revolution counter at the time the truck mixer is charged with cement. This weighmaster certificate shall also show the actual scale weights (pounds) for the ingredients batched. Theoretical or target batch weights shall not be used as a substitute for actual scale weights.

Weighmaster certificates shall be provided in printed form, or if approved by the ENGINEER, the data may be submitted in electronic media. Electronic media shall be presented in a tab-delimited format on a 3 1/2-inch diskette with a capacity of at least 1.4 megabytes. Captured data, for the ingredients represented by each batch shall be "line feed, carriage return" (LFCR) and "one line, separate record" with allowances for sufficient fields to satisfy the amount of data required by these specifications.

The CONTRACTOR may furnish a weighmaster certificate accompanied by a separate certificate that lists the actual batch weights or measurements for a load of concrete provided that both certificates are imprinted with the same non-repeating load number that is unique to the contract and delivered to the jobsite with the load.

Weighmaster certificates furnished by the CONTRACTOR shall conform to the provisions in Subsection 9-1.1, "Measurement of Quantities."

**9-6.4 TIME OR AMOUNT OF MIXING.** Mixing of concrete in paving or stationary mixers shall continue for the required mixing time after all ingredients, except water and admixture, if added with the water, are in the mixing compartment of the mixer before any part of the batch is released. Transfer time in multiple drum mixers shall not be counted as part of the required mixing time.

The required mixing time, in paving or stationary mixers, of concrete used for concrete structures, except minor structures, shall be not less than 90 seconds or more than 5 minutes, except that when directed by the ENGINEER in writing, the requirements of the following paragraph shall apply.

The required mixing time, in paving or stationary mixers, except as provided in the preceding paragraph, shall be not less than 50 seconds or more than 5 minutes.

The minimum required revolutions at the mixing speed for transit-mixed concrete shall not be less than that recommended by the mixer manufacturer, but in no case shall the number of revolutions be less than that required to consistently produce concrete conforming to the provisions for uniformity in Subsection 9-6.1, "General."

**9-6.5 HAND-MIXING.** Hand-mixed concrete shall be made in batches of not more than one-third cubic yard and shall be mixed on a watertight, level platform. The proper amount of coarse aggregate shall be measured in measuring boxes and spread on the platform and the fine aggregate shall be spread on this layer, the 2 layers being not more than one foot in total depth. On this mixture shall be spread the dry cement and mineral admixture and the whole weight turned no fewer than 2 times dry; then sufficient clean water shall be added, evenly distributed, and the whole weight again turned no fewer than 3 times, not including placing in the carriers or forms.



**9-6.6 AMOUNT OF WATER AND PENETRATION.** The amount of water used in concrete mixes shall be regulated so that the penetration of the concrete as determined by California Test 533 or the slump of the concrete as determined by ASTM Designation: C 143 is within the "Nominal" values shown in the following table. When the penetration or slump of the concrete is found to exceed the nominal values listed, the mixture of subsequent batches shall be adjusted to reduce the penetration or slump to a value within the nominal range shown. Batches of concrete with a penetration or slump exceeding the maximum values listed shall not be used in the work. When Type F or Type G chemical admixtures are added to the mix, the penetration requirements shall not apply and the slump shall not exceed 9 inches after the chemical admixtures are added.

Type of Work	Nominal		Maximum	
	Penetration inches	Slump inches	Penetration inches	Slump inches
Concrete Pavement	0 - 1	—	1 1/2	—
Non-reinforced concrete facilities	0 - 1 1/2	—	2	—
Reinforced concrete structures				
Sections over 12 inches thick	0 - 1 1/2	—	2 1/2	—
Sections 12 inches thick or less	0 - 2	—	3	—
Concrete placed under water	—	6-8	—	9
Cast-in-place concrete piles	2 1/2 - 3 1/2	5-7	4	8

The amount of free water used in concrete shall not exceed 310 pounds per cubic yard, plus 20 pounds for each required 100 pounds of cementitious material in excess of 550 pounds per cubic yard. The term free water is defined as the total water in the mixture minus the water absorbed by the aggregates in reaching a saturated surface-dry condition.

Where there are adverse or difficult conditions that affect the placing of concrete, the above specified penetration and free water content limitations may be exceeded providing the CONTRACTOR is granted permission by the ENGINEER in writing to increase the cementitious material content per cubic yard of concrete. The increase in water and cementitious material shall be at a ratio not to exceed 30 pounds of water per added 100 pounds of cementitious material per cubic yard. The cost of additional cementitious material and water added under these conditions shall be at the CONTRACTOR's expense and no additional compensation will be allowed therefor.

The equipment for supplying water to the mixer shall be constructed and arranged so that the amount of water added can be measured accurately. Any method of discharging water into the mixer for a batch shall be accurate within 1.5 percent of the quantity of water required to be added to the mix for any position of the mixer. Tanks used to measure water shall be designed so that water cannot enter while water is being discharged into the mixer and discharge into the mixer shall be made rapidly in one operation without dribbling. All equipment shall be arranged so as to permit checking the amount of water delivered by discharging into measured containers.

## CURING CONCRETE

**9-7.1 METHODS OF CURING.** Newly placed concrete shall be cured by the methods specified in this Section 90-7.01 and the special provisions.

- A. Water Method.** The concrete shall be kept continuously wet by the application of water for a minimum curing period of 7 days after the concrete has been placed.

When a curing medium consisting of cotton mats, rugs, carpets, or earth or sand blankets is to be used to retain the moisture, the entire surface of the concrete shall be kept damp by applying water with a nozzle that so atomizes the flow that a mist and not a spray is formed, until the surface of the concrete is covered with the curing medium. The moisture from the nozzle shall not be applied under pressure directly upon the concrete and shall not be allowed to accumulate on the concrete in a quantity sufficient to cause a flow or wash the surface. At the expiration of the curing period, the concrete surfaces shall be cleared of all curing mediums.

At the option of the CONTRACTOR, a curing medium consisting of white opaque polyethylene sheeting extruded onto burlap may be used to cure concrete structures. The polyethylene sheeting shall have a minimum thickness of 4 mil, and shall be extruded onto 10-ounce burlap.

At the option of the CONTRACTOR, a curing medium consisting of polyethylene sheeting may be used to cure concrete columns. The polyethylene sheeting shall have a minimum thickness of 10 mil achieved in a single layer of material.

If the CONTRACTOR chooses to use polyethylene sheeting or polyethylene sheeting on burlap as a curing medium as specified above, these mediums and any joints therein shall be secured as necessary to provide moisture retention and shall be within 3 inches of the concrete at all points along the surface being cured. When these mediums are used, the temperature of the concrete shall be monitored during curing. If the temperature of the concrete cannot be maintained below 140° F, this method of curing shall be discontinued, and one of the other curing methods allowed for the concrete shall be used.

When concrete bridge decks and flat slabs are to be cured without the use of a curing medium, the entire surface of the bridge deck or slab shall be kept damp by the application of water with an atomizing nozzle as specified in the preceding paragraph, until the concrete has set, after which the entire surface of the concrete shall be sprinkled continuously with water for a period of not less than 7 days.

- B. Curing Compound Method.** Surfaces of the concrete that are exposed to the air shall be sprayed uniformly with a curing compound.

Curing compounds to be used shall be as follows:

- a. Pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 2, Class B, except the resin type shall be poly-alpha-methylstyrene.
- b. Pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 2, Class B.

- c. Pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 2, Class A.
- d. Non-pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 1, Class B.
- e. Non-pigmented curing compound conforming to the requirements in ASTM Designation: C 309, Type 1, Class A.
- f. Non-pigmented curing compound with fugitive dye conforming to the requirements in ASTM Designation: C 309, Type 1-D, Class A.

The infrared scan for the dried vehicle from curing compound (A) in the preceding list shall match the infrared scan on file at the Transportation Laboratory.

The loss of water for each type of curing compound, when tested in conformance with the requirements in California Test 534, shall not be more than 0.15-kilograms per meter squared in 24 hours.

The curing compound to be used will be specified elsewhere in these specifications or in the special provisions.

When the use of curing compound is required or permitted elsewhere in these specifications or in the special provisions and no specific kind is specified, any of the curing compounds listed above may be used.

Curing compound shall be applied at a nominal rate of one gallon per 150 square feet, unless otherwise specified.

At any point, the application rate shall be within  $\pm 50$  square feet per gallon of the nominal rate specified, and the average application rate shall be within  $\pm 25$  square feet per gallon of the nominal rate specified when tested in conformance with the requirements in California Test 535. Runs, sags, thin areas, skips, or holidays in the applied curing compound shall be evidence that the application is not satisfactory.

Curing compounds shall be applied using power operated spray equipment. The power operated spraying equipment shall be equipped with an operational pressure gage and a means of controlling the pressure. Hand spraying of small and irregular areas that are not reasonably accessible to mechanical spraying equipment, in the opinion of the ENGINEER, may be permitted. The curing compound shall be applied to the concrete following the surface finishing operation, immediately before the moisture sheen disappears from the surface, but before any drying shrinkage or craze cracks begin to appear. In the event of any drying or cracking of the surface, application of water with an atomizing nozzle as specified in Subsection 9-7.1A, "Water Method," shall be started immediately and shall be continued until application of the compound is resumed or started; however, the compound shall not be applied over any resulting freestanding water. Should the film of compound be damaged from any cause before the expiration of 7 days after the concrete is placed in the case of structures and 72 hours in the case of pavement, the damaged portion shall be repaired immediately with additional compound.

At the time of use, compounds containing pigments shall be in a thoroughly mixed condition with the pigment uniformly dispersed throughout the vehicle. A paddle shall be used to loosen all settled pigment from the bottom of the container, and a power driven agitator shall be used to disperse the pigment uniformly throughout the vehicle.

Agitation shall not introduce air or other foreign substance into the curing compound.

The manufacturer shall include in the curing compound the necessary additives for control of sagging, pigment settling, leveling, de-emulsification, or other requisite qualities of a satisfactory working material. Pigmented curing compounds shall be manufactured so that the pigment does not settle badly, does not cake or thicken in the container, and does not become granular or curdled. Settled pigment shall be a thoroughly wetted, soft, mushy mass permitting the complete and easy vertical penetration of a paddle. Settled pigment shall be easily redispersed, with minimum resistance to the sideways manual motion of the paddle across the bottom of the container, to form a smooth uniform product of the proper consistency.

Curing compounds shall remain sprayable at temperatures above 40° F and shall not be diluted or altered after manufacture.

The curing compound shall be packaged in clean 274-gallon totes, 55-gallon barrels, or 5-gallon pails, or shall be supplied from a suitable storage tank located at the jobsite. The containers shall comply with "Title 49, Code of Federal Regulations, Hazardous Materials Regulations." The 274-gallon totes, and the 55-gallon barrels shall have removable lids and airtight fasteners. The 5-gallon pails shall be round and have standard full open head and bail. Lids with bungholes shall not be permitted. Settling or separation of solids in containers, except tanks, must be completely redispersed with low speed mixing prior to use, in conformance with these specifications and the manufacturer's recommendations. Mixing shall be accomplished either manually by use of a paddle or by use of a mixing blade driven by a drill motor, at low speed. Mixing blades shall be the type used for mixing paint. On site storage tanks shall be kept clean and free of contaminants. Each tank shall have a permanent system designed to completely redisperse settled material without introducing air or other foreign substances.

Steel containers and lids shall be lined with a coating that will prevent destructive action by the compound or chemical agents in the air space above the compound. The coating shall not come off the container or lid as skins. Containers shall be filled in a manner that will prevent skinning. Plastic containers shall not react with the compound.

Each container shall be labeled with the manufacturer's name, kind of curing compound, batch number, volume, date of manufacture, and volatile organic compound (VOC) content. The label shall also warn that the curing compound containing pigment shall be well stirred before use. Precautions concerning the handling and the application of curing compound shall be shown on the label of the curing compound containers in conformance with the Construction Safety Orders and General Industry Safety Orders of the State of California.

Containers of curing compound shall be labeled to indicate that the contents fully comply with the rules and regulations concerning air pollution control in the State of California.

When the curing compound is shipped in tanks or tank trucks, a shipping invoice shall accompany each load. The invoice shall contain the same information as that required herein for container labels.

Curing compound will be sampled by the ENGINEER at the source of supply or at the jobsite or at both locations.

Curing compound shall be formulated so as to maintain the specified properties for a minimum of one year. The ENGINEER may require additional testing before use to determine compliance with these specifications if the compound has not been used within one year or whenever the ENGINEER has reason to believe the compound is no longer satisfactory.

Tests will be conducted in conformance with the latest ASTM test methods and methods in use by the Transportation Laboratory.

- C. **Waterproof Membrane Method.** The exposed finished surfaces of concrete shall be sprayed with water, using a nozzle that so atomizes the flow that a mist and not a spray is formed, until the concrete has set, after which the curing membrane shall be placed. The curing membrane shall remain in place for a period of not less than 72 hours.

Sheeting material for curing concrete shall conform to the requirements in AASHTO Designation: M 171 for white reflective materials.

The sheeting material shall be fabricated into sheets of such width as to provide a complete cover for the entire concrete surface. Joints in the sheets shall be securely cemented together in such a manner as to provide a waterproof joint. The joint seams shall have a minimum lap of 0.33-foot. The sheets shall be securely weighted down by placing a bank of earth on the edges of the sheets or by other means satisfactory to the ENGINEER.

Should any portion of the sheets be broken or damaged before the expiration of 72 hours after being placed, the broken or damaged portions shall be immediately repaired with new sheets properly cemented into place.

Sections of membrane that have lost their waterproof qualities or have been damaged to such an extent as to render them unfit for curing the concrete shall not be used.

- D. **Forms-In-Place Method.** Formed surfaces of concrete may be cured by retaining the forms in place. The forms shall remain in place for a minimum period of 7 days after the concrete has been placed, except that for members over 20 inches in least dimension the forms shall remain in place for a minimum period of 5 days.

Joints in the forms and the joints between the end of forms and concrete shall be kept moisture tight during the curing period. Cracks in the forms and cracks between the forms and the concrete shall be resealed by methods subject to the approval of the ENGINEER.

**9-7.2 CURING PAVEMENT.** The entire exposed area of the pavement, including edges, shall be cured by the waterproof membrane method, or curing compound method using curing compound (A) or (B) as the CONTRACTOR may elect. Should the side forms be removed before the expiration of 72 hours following the start of curing, the exposed pavement edges shall also be cured. If the pavement is cured

by means of the curing compound method, the sawcut and all portions of the curing compound that have been disturbed by sawing operations shall be restored by spraying with additional curing compound.

Curing shall commence as soon as the finishing process provided in Section 40-1.10, "Final Finishing," has been completed. The method selected shall conform to the provisions in Subsection 9-7.1, "Methods of Curing."

When the curing compound method is used, the compound shall be applied to the entire pavement surface by mechanical sprayers. Spraying equipment shall be of the fully atomizing type equipped with a tank agitator that provides for continual agitation of the curing compound during the time of application. The spray shall be adequately protected against wind, and the nozzles shall be so oriented or moved mechanically transversely as to result in the minimum specified rate of coverage being applied uniformly on exposed faces. Hand spraying of small and irregular areas, and areas inaccessible to mechanical spraying equipment, in the opinion of the ENGINEER, will be permitted. When the ambient air temperature is above 60° F, the CONTRACTOR shall fog the surface of the concrete with a fine spray of water as specified in Subsection 9-7.1A, "Water Method." The surface of the pavement shall be kept moist between the hours of 10:00 a.m. and 4:30 p.m. on the day the concrete is placed. However, the fogging done after the curing compound has been applied shall not begin until the compound has set sufficiently to prevent displacement. Fogging shall be discontinued if ordered in writing by the ENGINEER.

**9-7.3 CURING STRUCTURES.** Newly placed concrete for cast-in-place structures, other than highway bridge decks, shall be cured by the water method, the forms-in-place method, or, as permitted herein, by the curing compound method, in conformance with the provisions in Section 90-7.01, "Methods of Curing."

The curing compound method using a pigmented curing compound may be used on concrete surfaces of construction joints, surfaces that are to be buried underground, and surfaces where only ordinary surface finish is to be applied and on which a uniform color is not required and that will not be visible from a public traveled way. If the CONTRACTOR elects to use the curing compound method on the bottom slab of box girder spans, the curing compound shall be curing compound (A).

The top surface of highway bridge decks shall be cured by both the curing compound method and the water method. The curing compound shall be curing compound (A).

Concrete surfaces of minor structures, as defined in Section 51-1.02, "Minor Structures," shall be cured by the water method, the forms-in-place method or the curing compound method.

When deemed necessary by the ENGINEER during periods of hot weather, water shall be applied to concrete surfaces being cured by the curing compound method or by the forms-in-place method, until the ENGINEER determines that a cooling effect is no longer required. Application of water for this purpose will be paid for as extra work as provided in Section 4-1.03D, "Extra Work."

**9-7.4 CURING PRECAST CONCRETE MEMBERS.** Precast concrete members shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing." Curing shall be provided for the minimum time specified for each method or until the concrete reaches its design strength, whichever is less. Steam curing may also be used for precast members and shall conform to the following provisions:

- a. After placement of the concrete, members shall be held for a minimum 4-hour presteaming period. If the ambient air temperature is below 50° F, steam shall be applied during the presteaming period to hold the air surrounding the member at a temperature between 50° F and 90° F.
- b. To prevent moisture loss on exposed surfaces during the presteaming period, members shall be covered as soon as possible after casting or the exposed surfaces shall be kept wet by fog spray or wet blankets.
- c. Enclosures for steam curing shall allow free circulation of steam about the member and shall be constructed to contain the live steam with a minimum moisture loss. The use of tarpaulins or similar flexible covers will be permitted, provided they are kept in good repair and secured in such a manner as to prevent the loss of steam and moisture.
- d. Steam at the jets shall be at low pressure and in a saturated condition. Steam jets shall not impinge directly on the concrete, test cylinders, or forms. During application of the steam, the temperature rise within the enclosure shall not exceed 40° F per hour. The curing temperature throughout the enclosure shall not exceed 150° F and shall be maintained at a constant level for a sufficient time necessary to develop the required transfer strength. Control cylinders shall be covered to prevent moisture loss and shall be placed in a location where temperature is representative of the average temperature of the enclosure.
- e. Temperature recording devices that will provide an accurate, continuous, permanent record of the curing temperature shall be provided. A minimum of one temperature recording device per 200 feet of continuous bed length will be required for checking temperature.
- f. Members in pretension beds shall be detensioned immediately after the termination of steam curing while the concrete and forms are still warm, or the temperature under the enclosure shall be maintained above 60° F until the stress is transferred to the concrete.
- g. Curing of precast concrete will be considered completed after termination of the steam curing cycle.

**9-7.5 CURING PRECAST PRESTRESSED CONCRETE PILES.** Newly placed concrete for precast prestressed concrete piles shall be cured in conformance with the provisions in Subsection 9-7.04, "Curing Precast Concrete Members," except that piles in a corrosive environment shall be cured as follows:

- a. Piles shall be either steam cured or water cured. If water curing is used, the piles shall be kept continuously wet by the application of water in conformance with the provisions in Section 90-7.01A, "Water Method."
- b. If steam curing is used, the steam curing provisions in Section 90-7.04, "Curing Precast Concrete Members," shall apply except that the piles shall be kept continuously wet for their entire length for a period of not less than 3 days, including the holding and steam curing periods.

**9-7.6 CURING SLOPE PROTECTION.** Concrete slope protection shall be cured in conformance with any of the methods specified in Subsection 9-7.1, "Methods of Curing."

Concreted-rock slope protection shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing," or with a blanket of earth kept wet for 72 hours, or by sprinkling with a fine spray of water every 2 hours during the daytime for a period of 3 days.

**9-7.7 CURING MISCELLANEOUS CONCRETE WORK.** Exposed surfaces of curbs shall be cured by pigmented curing compounds as specified in Subsection 9-7.1B, "Curing Compound Method."

Concrete sidewalks, gutter depressions, island paving, curb ramps, driveways, and other miscellaneous concrete areas shall be cured in conformance with any of the methods specified in Section 90-7.01, "Methods of Curing."

Shotcrete shall be cured for at least 72 hours by spraying with water, by a moist earth blanket, or by any of the methods provided in Subsection 9-7.1, "Methods of Curing."

Mortar and grout shall be cured by keeping the surface damp for 3 days.

After placing, the exposed surfaces of sign structure foundations, including pedestal portions, if constructed, shall be cured for at least 72 hours by spraying with water, by a moist earth blanket, or by any of the methods provided in Subsection 9-7.1, "Methods of Curing."

## PROTECTING CONCRETE

**9-8.1 GENERAL.** In addition to the provisions in Section 7-1.16, "CONTRACTOR's Responsibility for the Work and Materials," the CONTRACTOR shall protect concrete as provided in this Section.

Concrete shall not be placed on frozen or ice-coated ground or subgrade nor on ice-coated forms, reinforcing steel, structural steel, conduits, precast members, or construction joints.

Under rainy conditions, placing of concrete shall be stopped before the quantity of surface water is sufficient to damage surface mortar or cause a flow or wash of the concrete surface, unless the CONTRACTOR provides adequate protection against damage.

Concrete that has been frozen or damaged by other causes, as determined by the ENGINEER, shall be removed and replaced by the CONTRACTOR at the CONTRACTOR's expense.

**9-8.2 PROTECTING CONCRETE STRUCTURES.** Structure concrete and shotcrete used as structure concrete shall be maintained at a temperature of not less than 45° F for 72 hours after placing and at not



less than 40° F for an additional 4 days. When required by the ENGINEER, the CONTRACTOR shall submit a written outline of the proposed methods for protecting the concrete.

**9-8.3 PROTECTING CONCRETE PAVEMENT.** Pavement concrete shall be maintained at a temperature of not less than 40° F for 72 hours. When required by the ENGINEER, the CONTRACTOR shall submit a written outline of the proposed methods for protecting the concrete.

Except as provided in Section 7-1.08, "Public Convenience," the CONTRACTOR shall protect concrete pavement against construction and other activities that abrade, scar, discolor, reduce texture depth, lower coefficient of friction, or otherwise damage the surface. Stockpiling, drifting, or excessive spillage of soil, gravel, petroleum products, and concrete or asphalt mixes on the surface of concrete pavement is prohibited unless otherwise specified in these specifications, the special provisions or permitted by the ENGINEER.

When ordered by the ENGINEER or shown on the PLANS or specified in the special provisions, pavement crossings shall be constructed for the convenience of public traffic. The material and work necessary for the construction of the crossings, and their subsequent removal and disposal, will be paid for at the contract unit prices for the items of work involved and if there are no contract items for the work involved, payment for pavement crossings will be made by extra work as provided in Section 4-1.03D, "Extra Work." Where public traffic will be required to cross over the new pavement, Type III portland cement may be used in concrete, if permitted in writing by the ENGINEER. The pavement may be opened to traffic as soon as the concrete has developed a modulus of rupture of 550 psi. The modulus of rupture will be determined by California Test 523.

No traffic or CONTRACTOR's equipment, except as hereinafter provided, will be permitted on the pavement before a period of 10 days has elapsed after the concrete has been placed, nor before the concrete has developed a modulus of rupture of at least 550 psi. Concrete that fails to attain a modulus of rupture of 550 psi within 10 days shall not be opened to traffic until directed by the ENGINEER. Equipment for sawing weakened plane joints will be permitted on the pavement as specified in Section 40-1.08B, "Weakened Plane Joints."

When requested in writing by the CONTRACTOR, the tracks on one side of paving equipment will be permitted on the pavement after a modulus of rupture of 350 psi has been attained, provided that:

- a. Unit pressure exerted on the pavement by the paver shall not exceed 20 psi;
- b. Tracks with cleats, grousers, or similar protuberances shall be modified or shall travel on planks or equivalent protective material, so that the pavement is not damaged; and
- c. No part of the track shall be closer than one foot from the edge of pavement.

In case of visible cracking of, or other damage to the pavement, operation of the paving equipment on the pavement shall be immediately discontinued.

Damage to the pavement resulting from early use of pavement by the CONTRACTOR's equipment as provided above shall be repaired by the CONTRACTOR at the CONTRACTOR's expense.

The State will furnish the molds and machines for testing the concrete for modulus of rupture, and the CONTRACTOR, at the CONTRACTOR's expense, shall furnish the material and whatever labor the ENGINEER may require.

### COMPRESSIVE STRENGTH

**9-9.1 GENERAL.** Concrete compressive strength requirements consist of a minimum strength that shall be attained before various loads or stresses are applied to the concrete and, for concrete designated by strength, a minimum strength at the age of 28 days or at the age otherwise allowed in Subsection 9-1.01, "Description." The various strengths required are specified in these specifications or the special provisions or are shown on the PLANS.

The compressive strength of concrete will be determined from test cylinders that have been fabricated from concrete sampled in conformance with the requirements of California Test 539. Test cylinders will be molded and initially field cured in conformance with California Test 540. Test cylinders will be cured and tested after receipt at the testing laboratory in conformance with the requirements of California Test 521. A strength test shall consist of the average strength of 2 cylinders fabricated from material taken from a single load of concrete, except that, if any cylinder should show evidence of improper sampling, molding, or testing, that cylinder shall be discarded and the strength test shall consist of the strength of the remaining cylinder.

When concrete compressive strength is specified as a prerequisite to applying loads or stresses to a concrete structure or member, test cylinders for other than steam cured concrete will be cured in conformance with Method 1 of California Test 540. The compressive strength of concrete determined for these purposes will be evaluated on the basis of individual tests.

When concrete is designated by 28-day compressive strength rather than by cementitious material content, the concrete strength to be used as a basis for acceptance of other than steam cured concrete will be determined from cylinders cured in conformance with Method 1 of California Test 540. If the result of a single compressive strength test at the maximum age specified or allowed is below the specified strength but is 95 percent or more of the specified strength, the CONTRACTOR shall, at the CONTRACTOR's expense, make corrective changes, subject to approval of the ENGINEER, in the mix proportions or in the concrete fabrication procedures, before placing additional concrete, and shall pay to the State \$10 for each in-place cubic yard of concrete represented by the deficient test. If the result of a single compressive strength test at the maximum age specified or allowed is below 95 percent of the specified strength, but is 85 percent or more of the specified strength, the CONTRACTOR shall make the corrective changes specified above, and shall pay to the State \$15 for each in-place cubic yard of concrete represented by the deficient test. In addition, such corrective changes shall be made when the compressive strength of concrete tested at 7 days indicates, in the judgment of the ENGINEER, that the concrete will not attain the required compressive strength at the maximum age specified or allowed. Concrete represented by a single test that indicates a compressive strength of less than 85 percent of the specified 28-day compressive strength will be rejected in conformance with the provisions in Section 6-1.04, "Defective Materials."

If the test result indicates that the compressive strength at the maximum curing age specified or allowed is below the specified strength, but is 85 percent or more of the specified strength, payments to the State as required above shall be made, unless the CONTRACTOR, at the CONTRACTOR's expense, obtains and submits evidence acceptable to the ENGINEER that the strength of the concrete placed in the work

meets or exceeds the specified 28-day compressive strength. If the test result indicates a compressive strength at the maximum curing age specified or allowed below 85 percent, the concrete represented by that test will be rejected, unless the CONTRACTOR, at the CONTRACTOR's expense, obtains and submits evidence acceptable to the ENGINEER that the strength and quality of the concrete placed in the work are acceptable. If the evidence consists of tests made on cores taken from the work, the cores shall be obtained and tested in conformance with the requirements in ASTM Designation: C 42.

No single compressive strength test shall represent more than 320 cubic yards.

When a precast concrete member is steam cured, the compressive strength of the concrete will be determined from test cylinders that have been handled and stored in conformance with Method 3 of California Test 540. The compressive strength of steam cured concrete will be evaluated on the basis of individual tests representing specific portions of production. When the concrete is designated by 28-day compressive strength rather than by cementitious material content, the concrete shall be considered to be acceptable whenever its compressive strength reaches the specified 28-day compressive strength provided that strength is reached in not more than the maximum number of days specified or allowed after the member is cast.

When concrete is specified by compressive strength, prequalification of materials, mix proportions, mixing equipment, and procedures proposed for use will be required prior to placement of the concrete. Prequalification shall be accomplished by the submission of acceptable certified test data or trial batch reports by the CONTRACTOR. Prequalification data shall be based on the use of materials, mix proportions, mixing equipment, procedures, and size of batch proposed for use in the work.

Certified test data, in order to be acceptable, shall indicate that not less than 90 percent of at least 20 consecutive tests exceed the specified strength at the maximum number of cure days specified or allowed, and none of those tests are less than 95 percent of specified strength. Strength tests included in the data shall be the most recent tests made on concrete of the proposed mix design and all shall have been made within one year of the proposed use of the concrete.

Trial batch test reports, in order to be acceptable, shall indicate that the average compressive strength of 5 consecutive concrete cylinders, taken from a single batch, at not more than 28 days (or the maximum age allowed) after molding shall be at least 580 psi greater than the specified 28-day compressive strength, and no individual cylinder shall have a strength less than the specified strength at the maximum age specified or allowed. Data contained in the report shall be from trial batches that were produced within one year of the proposed use of specified strength concrete in the project. Whenever air-entrainment is required, the air content of trial batches shall be equal to or greater than the air content specified for the concrete without reduction due to tolerances.

Tests shall be performed in conformance with either the appropriate California Test methods or the comparable ASTM test methods. Equipment employed in testing shall be in good condition and shall be properly calibrated. If the tests are performed during the life of the contract, the ENGINEER shall be notified sufficiently in advance of performing the tests in order to witness the test procedures.

The certified test data and trial batch test reports shall include the following information:

- a. Date of mixing.

- b. Mixing equipment and procedures used.
- c. The size of batch in cubic yards and the weight, type, and source of all ingredients used.
- d. Penetration of the concrete.
- e. The air content of the concrete if an air-entraining admixture is used.
- f. The age at time of testing and strength of all concrete cylinders tested.

Certified test data and trial batch test reports shall be signed by an official of the firm that performed the tests.

When approved by the ENGINEER, concrete from trial batches may be used in the work at locations where concrete of a lower quality is required and the concrete will be paid for as the type or class of concrete required at that location.

After materials, mix proportions, mixing equipment, and procedures for concrete have been prequalified for use, additional prequalification by testing of trial batches will be required prior to making changes that, in the judgment of the ENGINEER, could result in a strength of concrete below that specified.

The CONTRACTOR's attention is directed to the time required to test trial batches and the CONTRACTOR shall be responsible for production of trial batches at a sufficiently early date so that the progress of the work is not delayed.

When precast concrete members are manufactured at the plant of an established manufacturer of precast concrete members, the mix proportions of the concrete shall be determined by the CONTRACTOR, and a trial batch and prequalification of the materials, mix proportions, mixing equipment, and procedures will not be required.

## MINOR CONCRETE

**9-10.1 GENERAL.** Concrete for minor structures, slope paving, curbs, sidewalks and other concrete work, when designated as minor concrete on the PLANS, in the specifications, or in the contract item, shall conform to the provisions specified herein.

The ENGINEER, at the ENGINEER's discretion, will inspect and test the facilities, materials and methods for producing the concrete to ensure that minor concrete of the quality suitable for use in the work is obtained.

**9-10.2 MATERIALS.** Minor concrete shall conform to the following requirements:

- A. **Cementitious Material.** Cementitious material shall conform to the provisions in Subsection 9-1.1, "Description."
- B. **Aggregate.** Aggregate shall be clean and free from deleterious coatings, clay balls, roots, and other extraneous materials.

The CONTRACTOR shall submit to the ENGINEER for approval, a grading of the combined aggregate proposed for use in the minor concrete. After acceptance of the grading, aggregate furnished for minor concrete shall conform to that grading, unless a change is authorized in writing by the ENGINEER.

The ENGINEER may require the CONTRACTOR to furnish periodic test reports of the aggregate grading furnished. The maximum size of aggregate used shall be at the option of the CONTRACTOR, but in no case shall the maximum size be larger than 1<sup>1</sup>/<sub>2</sub> inch or smaller than 3/4 inch.

The ENGINEER may waive, in writing, the gradation requirements in this Section 90-10.02B if, in the ENGINEER's opinion, the furnishing of the gradation is not necessary for the type or amount of concrete work to be constructed.

**C. Water.** Water used for washing, mixing, and curing shall be free from oil, salts, and other impurities that would discolor or etch the surface or have an adverse affect on the quality of the concrete.

**D. Admixtures.** The use of admixtures shall conform to the provisions in Section 90-4, "Admixtures."

**9-10.3 PRODUCTION.** Cementitious material, water, aggregate, and admixtures shall be stored, proportioned, mixed, transported, and discharged in conformance with recognized standards of good practice that will result in concrete that is thoroughly and uniformly mixed, that is suitable for the use intended, and that conforms to requirements specified herein. Recognized standards of good practice are outlined in various industry publications such as are issued by American Concrete Institute, AASHTO, or the Department.

The cementitious material content of minor concrete shall conform to the provisions in Subsection 9-1.1, "Description."

The amount of water used shall result in a consistency of concrete conforming to the provisions in Subsection 9-6.6, "Amount of Water and Penetration." Additional mixing water shall not be incorporated into the concrete during hauling or after arrival at the delivery point, unless authorized by the ENGINEER.

Discharge of ready-mixed concrete from the transporting vehicle shall be made while the concrete is still plastic and before stiffening occurs. An elapsed time of 1.5 hours (one hour in non-agitating hauling equipment), or more than 250 revolutions of the drum or blades, after the introduction of the cementitious material to the aggregates, or a temperature of concrete of more than 90° F will be considered conditions contributing to the quick stiffening of concrete. The CONTRACTOR shall take whatever action is necessary to eliminate quick stiffening, except that the addition of water will not be permitted.

The required mixing time in stationary mixers shall be not less than 50 seconds or more than 5 minutes.

The minimum required revolutions at mixing speed for transit-mixed concrete shall be not less than that recommended by the mixer manufacturer, and shall be increased, if necessary, to produce thoroughly and uniformly mixed concrete.

Each load of ready-mixed concrete shall be accompanied by a weighmaster certificate that shall be delivered to the ENGINEER at the discharge location of the concrete, unless otherwise directed by the ENGINEER. The weighmaster certificate shall be clearly marked with the date and time of day when the load left the batching plant and, if hauled in truck mixers or agitators, the time the mixing cycle started.

A Certificate of Compliance conforming to the provisions in Section 6-1.07, "Certificates of Compliance," shall be furnished to the ENGINEER, prior to placing minor concrete from a source not previously used on the contract, stating that minor concrete to be furnished meets contract requirements, including minimum cementitious material content specified.

**9-10.4 CURING MINOR CONCRETE.** Curing minor concrete shall conform to the provisions in Subsection 7, "Curing Concrete."

**9-10.5 PROTECTING MINOR CONCRETE.** Protecting minor concrete shall conform to the provisions in Subsection 8, "Protecting Concrete," except the concrete shall be maintained at a temperature of not less than 40° F for 72 hours after placing.

**9-10.6 MEASUREMENT AND PAYMENT.** Minor concrete will be measured and paid for in conformance with the provisions specified in the various sections of these specifications covering concrete construction when minor concrete is specified in the specifications, shown on the PLANS, or indicated by contract item in the ENGINEER's Estimate.

## MEASUREMENT AND PAYMENT

**9-11.1 MEASUREMENT.** Portland cement concrete will be measured in conformance with the provisions specified in the various sections of these specifications covering construction requiring concrete.

When it is provided that concrete will be measured at the mixer, the volume in cubic feet shall be computed as the total weight of the batch in pounds divided by the density of the concrete in pounds per cubic foot. The total weight of the batch shall be calculated as the sum of all materials, including water, entering the batch. The density of the concrete will be determined in conformance with the requirements in California Test 518.

**9-11.2 PAYMENT.** Portland cement concrete will be paid for in conformance with the provisions specified in the various sections of these specifications covering construction requiring concrete.

Full compensation for furnishing and incorporating admixtures required by these specifications or the special provisions will be considered as included in the contract prices paid for the concrete involved and no additional compensation will be allowed therefor.

Should the ENGINEER order the CONTRACTOR to incorporate any admixtures in the concrete when their use is not required by these specifications or the special provisions, furnishing the admixtures and adding them to the concrete will be paid for as extra work as provided in Section 4-1.03D, "Extra Work."

Should the CONTRACTOR use admixtures in conformance with the provisions in Subsection 9-4.5, "Optional Use of Chemical Admixtures," or Subsection 9-4.7, "Optional Use of Air-entraining Admixtures,"

or should the CONTRACTOR request and obtain permission to use other admixtures for the CONTRACTOR's benefit, the CONTRACTOR shall furnish those admixtures and incorporate them into the concrete at the CONTRACTOR's expense and no additional compensation will be allowed therefor.

**END OF SECTION**

**DIVISION V**  
**SECTION 10**  
**CRACK SEALING**

**DESCRIPTION**

**10-1.1 GENERAL.** This work shall consist of cleaning and sealing pavement cracks, and application of herbicide to pavement cracks, in accordance with these SPECIFICATIONS and in conformance to the details shown on the PLANS and as directed by the COUNTY in the field.

**10-1.2 PREQUALIFICATION OF MATERIALS.** The CONTRACTOR shall provide submittals for prequalification of all materials used in this item. No separate payment will be made for prequalification tests.

**MATERIALS**

**10-2.1 HERBICIDE.** Herbicide shall be pre-emergent type approved for use in California, Treflan or approved equal.

**10-2.2 CRACK SEALER.** The crack sealer shall be a rubberized asphalt material, Polyflex 3 by Crafcoc, or equal, manufactured for the application specified. A backing material, if called for, shall be manufactured for use with the crack sealer. It shall be nonadhesive to the asphalt concrete and crack sealer.

**10-2.3 ASPHALT.** Per Section 8, "Asphalt Concrete- CalTrans" hot mix, no. 4 max. gradation.

**CONSTRUCTION**

**10-3.1 SEALED CRACKS.** Existing cracks that are adequately sealed may remain as is, except excess seal that would adversely affect the pavement surface rehabilitation material shall be removed, as approved by the COUNTY.

**10-3.2 CRACK PREPARATION.** All cracks in the existing asphalt concrete for all pavement areas indicated on the PLANS shall be blown clean with a high-pressure air nozzle and a pre-emergent herbicide applied.

**10-3.3 CRACK SEALING.** All properly prepared cracks greater than 3/8-inch in width in the existing asphalt concrete for all pavement areas indicated on the PLANS and as identified in the field by the COUNTY shall be filled with an approved, rubberized, crack sealing material. Cracks which are greater than 1-inch in width shall be properly prepared, tack applied, and then filled with fine AC mix, the asphalt adequately compacted, and the filled crack surface made flush with the surrounding asphalt surface.

**MEASUREMENT**

**10-4.1** No separate payment shall be made for crack preparation, cleaning and herbicide treatment. Crack sealing shall be measured by the linear foot regardless of the crack width or method of sealing.



**PAYMENT**

**10-5.1** Payment for sealing material shall be made at the contract unit price per linear foot. The price shall be full compensation for furnishing all materials, for all preparation, delivering, and placing of these materials, and for all labor, equipment, tools, and incidentals necessary to complete the item, as directed by the COUNTY and herein specified.

Payment will be made under:

*"Crack Cleaning" - per lineal foot*

*"Crack Seal" - per lineal foot*

**END OF SECTION**

**DIVISION V**  
**SECTION 11**  
**FUEL-RESISTANT SEAL**

**DESCRIPTION**

**11-1.1 GENERAL.** This item shall consist of an application of fuel-resistant seal on bituminous surface, in accordance with the PLANS and SPECIFICATIONS and as designated by the ENGINEER.

**MATERIAL**

**11-2.1 GENERAL.** Fuel-resistant seal shall be Seal Master, coal tar sealer with latex additives, or equal, manufactured by Seal Master, Inc., P. O. Box 2277, Sandusky, Ohio 44870 (800) 395-7325. The seal shall be a uniform blend of Seal Master and sand in conformance with the manufacturer's recommendations.

**11-2.2 SEALER.** Seal-Master sealer shall be thoroughly mixed as received in its original state to ensure all material is in a homogenous consistency.

**11-2.3 SAND.** Sand shall be graded to form a tight, hard, non-absorbent film matrix. Sand must be clean and contain an average particle size distribution as shown below:

U.S. SIEVE	% PASSING
No. 16	100
No. 20	85 - 100
No. 30	15 - 85
No. 40	2 - 15
No. 100	0 - 2

**CONSTRUCTION METHODS**

**11-3.1 SURFACE PREPARATION.**

- A. Clean.** Asphalt concrete areas to be sealed shall be clean, surface-cured, and sound. The surface shall be free from clay, dust, sand, salt, oil, grease, and any other foreign matter. Fines from tie-down anchor installation shall be removed by sweeping, high-pressure wash, or other method to the satisfaction of the ENGINEER.
- B. Cured.** The area to be sealed shall be free of all surface oils and cured to a point that when water is poured on the surface, the light oils do not rise into it. The normal cure period is 30 days, depending upon composition of asphaltic concrete, weather conditions, and time of year. If oil is still present when surface is tested with water, the surface shall be thoroughly cleaned with TSP and water, then allowed to dry and tested again prior to application of seal.

C. **Sound.** The area to be sealed shall be sound, free of alligatored sections or softened spots due to oil saturation. Scrape and clean oil spots with products recommended by the manufacturer.

1. Repair and patch all areas that have base failure, oil-softened areas, chuck or pot holes, or badly weathered areas.
2. Clean surface of all foreign matter, oil, grease, and vegetation.
3. Clean out all minor cracks of 1/2-inch or less to a reasonable depth, removing all dirt and vegetation. Fill cracks with Seal-Master pourable, trowelable, or hot-pour joint sealing material.
4. Scrape and clean oil spots and coat with Seal-Master Petro Seal.

**11-3.2 APPLICATION OF MATERIAL.** The material shall be applied in two coats and according to the manufacturer's recommendations. Do not apply if rain is imminent. Temperatures should be 50°F minimum and rising. Temperature should not go below 50° in any of the 24 hours following application.

**11-3.3 MIXING.** Seal-Master, water, and sand shall be mixed together to an even, smooth consistency, starting with the Seal-Master, then the proper percent of water and sand.

When the sand is added to the mix, 1% to 2% Top Tuff should be added to give better retention of the sand in the mix. It may also be necessary to use additional water due to absorption onto the sand.

Timing	Emulsion	Sand	Top Tuff	Water	Application Rate
1st Coat	100 Gal.	400-800 Lbs.	1-2 Gal.	30 Gal.	.07 - .15 per S.Y.

Application rates of material will vary slightly with the mode of application and the texture of the pavement. Complete coverage of the pavement shall be achieved. Application rates are based on undiluted emulsion.

Application may be made by squeegee, brush, or mechanical equipment designed for squeegee, spray, or any combination of the above.

**11-3.4 QUALITY CONTROL.** The CONTRACTOR shall furnish manufacturer certification that each consignment of the fuel resistant seal shipped to the Project meets the requirements of this specification. The manufacturer certification shall not be interpreted as a basis for final acceptance.

**11-3.5 FREIGHT AND WEIGH BILLS.** The CONTRACTOR shall furnish the ENGINEER copies of all shipments. The CONTRACTOR shall not remove any materials from storage or release shippers equipment until outage and temperature recording have been made.

## MEASUREMENT AND PAYMENT

**11-4.1 Fuel-resistant seal** shall be measured and paid for by the square yard. Payment under this item shall include all materials, labor, equipment, tools, and incidentals necessary to complete the item.

## END OF SECTION



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

KECIA HARPER-IHEM  
Clerk of the Board of Supervisors

KIMBERLY A. RECTOR  
Assistant Clerk of the Board

October 5, 2010

THE PRESS ENTERPRISE  
ATTN: LEGALS  
PO BOX 792  
RIVERSIDE, CA 92501

FAX (951) 368-9018  
E-MAIL: [legals@pe.com](mailto:legals@pe.com)

**RE: NOTICE INVITING BIDS: Hemet-Ryan Airport Runway Apron Rehabilitation Project**

To Whom It May Concern:

Attached is a copy for publication in your newspaper for **TWO (2) TIMES** on **two consecutive Thursdays: October 7 and 14, 2010.**

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

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

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

Thank you in advance for your assistance and expertise.

Sincerely,

*Mcgil*

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

**Gil, Cecilia**

---

**From:** PE Legals [legals@pe.com]  
**Sent:** Tuesday, October 05, 2010 8:23 AM  
**To:** Gil, Cecilia  
**Subject:** RE: FOR PUBLICATION: BIDS-Hemet-Ryan Airport Runway Apron Rehab

**Received for publication on Oct 7 & 14**

Thank You!  
Maria

Maria G. Tinajero · Legal Advertising Department · 1-800-880-0345 · Fax: 951-368-9018

**enterprise**media

Publisher of the Press-Enterprise

Please Note: Deadline is 10:30 AM two (2) business days prior to the date you would like to publish.  
\*\*Additional days required for larger ad sizes\*\*

---

**From:** Gil, Cecilia [mailto:CCGIL@rcbos.org]  
**Sent:** Monday, October 04, 2010 5:13 PM  
**To:** PE Legals  
**Subject:** FOR PUBLICATION: BIDS-Hemet-Ryan Airport Runway Apron Rehab

Hello!

Attached is a Notice Inviting Bids, for above-mentioned project, for publication on 2 Thursdays: October 7 and 14, 2010.  
Please confirm. THANK YOU!

*Cecilia Gil*

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

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

## NOTICE INVITING BIDS

Sealed proposals for construction of airport improvements at Hemet Ryan Airport "Apron Rehabilitation Project" will be received at the office of the Clerk of the Board of Supervisors for the County of Riverside, 4080 Lemon Street, First Floor, Riverside, California 92501 until **2:00 p.m. on Tuesday, November 9, 2010**, and then will be publicly opened and read. The work contemplated consists of the following:

### HEMET-RYAN AIRPORT - AIP-3-06-0104-011-2010

- Pavement Rehabilitation by Seal Coat Application
- Minor and Major Crack Repair
- Full Depth Pavement Removal and Replacement
- PCC Valley Gutter Repairs
- Paint Striping

Each bid shall be in accordance with the PLANS and SPECIFICATIONS and other Contract Documents now on file with the Riverside County Economic Development Agency – Aviation Division, 3403 10<sup>th</sup> Street, Suite 500, Riverside, California 92501. A copy of the PLANS, SPECIFICATIONS, and Bid Documents may be secured from the office of Mead & Hunt, Inc., 133 Aviation Boulevard, Suite 100, Santa Rosa, California 95403, telephone (707) 526-5010, fax (707) 526-9721, upon non-refundable payment of \$100.00.

Each bidder must supply all the information required by the Bid Documents and SPECIFICATIONS. All proposals sent by mail must be posted so as to be in the hands of the County of Riverside, by the hour and date set forth above for the bid opening. All proposals shall be addressed to:

**The Clerk of the Board of Supervisors, County of Riverside, 4080 Lemon Street, First Floor,  
Riverside California 92501**

and marked:

**HEMET-RYAN AIRPORT - AIP-3-06-0104-011-2010, APRON REHABILITATION PROJECT**

The proposed CONTRACT is under and subject to Executive Order 11246, as amended, of September 24, 1965, and to the Equal Employment Opportunity (EEO) and Federal Labor Provisions. All labor on the PROJECT shall be paid no less than the higher of either the prevailing State wage rates established by the Director of the State of California, Department of Industrial Relations, or the prevailing Federal wage rates established by the U.S. Secretary of Labor.

The EEO requirements, labor provisions, and wage rates are included in the SPECIFICATIONS and Bid Documents and are available for inspection at the County of Riverside, Economic Development Agency – Aviation Division, 3403 10<sup>th</sup> Street, Suite 500, Riverside, California 92501. Each bidder must complete, sign, and furnish with his bid the "Bidder's Statement on Previous Contracts Subject to EEO Clause", a "Certification of Non-segregated Facilities", and the "Assurance of Disadvantaged Business Enterprise Participation" as contained in the Bid Proposal.

To be eligible for award, each bidder must comply with the affirmative action requirements which are contained in the SPECIFICATIONS. A contractor having fifty (50) or more employees and his subcontractors having fifty (50) or more employees and who may be awarded a contract of \$50,000 or more will be required to maintain an affirmative action program, the standards for which are contained in the SPECIFICATIONS.

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this CONTRACT. It is the policy of the County of Riverside to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this CONTRACT. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this CONTRACT will be conditioned upon satisfying the Good Faith Effort requirements specified in Div 11, Section 4-4. These requirements apply to all bidders/offerors, including those who qualify as a DBE. A DBE CONTRACT goal of **twelve percent (12%)** has been established for this CONTRACT. The bidder/offeror shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26, to meet the CONTRACT goal for DBE participation in the performance of this CONTRACT.

The bidder/offeror will be required to submit the following information: (1) the names and addresses of DBE firms that will participate in the CONTRACT; (2) a description of the work that each DBE firm will perform; (3) the dollar amount of the participation of each DBE firm participating; (4) written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the CONTRACT goal; (5) written confirmation from the DBE that it is participating in the CONTRACT as provided in the commitment made under (4); and (5) if the CONTRACT goal is not met, evidence of good faith efforts. The bidder/offeror shall submit the information prior to a commitment by the County of Riverside to award the CONTRACT to the apparent successful competitor, as a condition of responsibility, within ten (10) days of County of Riverside's request.

DBE participation in this CONTRACT may be in the form of a prime contract, subcontract, joint venture, or another arrangement that qualifies under 49 CFR Sections 26.55, "How is DBE participation counted toward goals?" or 26.53(g). (See Proposal Forms and Sample Letter of Intent.)

All solicitations, contracts, and subcontracts resulting from projects funded under this CONTRACT are subject to the foreign trade restriction required by 49 CFR Part 30, Denial of Public Works Contracts to Suppliers of Goods and Services of Countries That Deny Procurement Market Access to U.S. Contractors. The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program.

Each proposal must be accompanied by a certified check, cashier's check, or bid bond in an amount not less than ten percent (10%) of the amount bid. The successful bidder shall submit at the time of execution of the CONTRACT, a Performance Bond along with a Payment Bond (Labor and Material), each for one hundred percent (100%) of the CONTRACT PRICE, and required proof of insurance. Surety company shall be licensed in the State of California and have a Best's rating of "A" or better with a financial size of V or better.

The COUNTY shall have the right to reject any bids presented in accordance with Section 20150.9 of the California Public Contracts Code.

Engineer's Estimate: Hemet-Ryan Airport Apron Rehabilitation -Base Bid Schedule A	\$630,000.00
Bid Bond:	10%
Performance Bond:	100%
Payment Bond:	100%
Working Days:	65 working days

Dated: October 5, 2010

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

# Legal Advertising Invoice

① REMITTANCE ADDRESS  
 POST OFFICE BOX 12009  
 RIVERSIDE, CA 92502-2209  
 FAX (951) 368-9026

① BILLING PERIOD 10/14/10 - 10/14/10  
 ② BILLING DATE 10/14/10  
 ③ TOTAL AMOUNT DUE 887.50  
 ④ ADVERTISING/CLIENT NAME BOARD OF SUPERVISORS  
 FOR BILLING INFORMATION CALL (951) 368-9713  
 \* UNAPPLIED AMOUNT ⑤  
 ⑥ PAGE NO 1  
 TERMS OF PAYMENT Due Upon Receipt

⑦ BILLED ACCOUNT NAME AND ADDRESS  
 BOARD OF SUPERVISORS  
 COUNTY OF RIVERSIDE  
 P.O. BOX 1147  
 RIVERSIDE CA 92502

⑧ BILLED ACCOUNT NUMBER 045202  
 REP NO LE04

Statement #: 56565451 Amount Paid \$ \_\_\_\_\_ Your Check # \_\_\_\_\_

**PLEASE DETACH AND RETURN UPPER PORTION WITH YOUR REMITTANCE**

⑩ DATE	⑪ REFERENCE	⑫ ⑬ DESCRIPTION-OTHER COMMENTS/CHARGES	⑭ SAU SIZE ⑮ BILLED UNITS	⑯ RATE	⑰ GROSS AMOUNT	⑱ NET AMOUNT
10/07	4234683 CO	NIB - HEMET RYAN AIRPORT RUNWA Class : 10 Ctext Ad# 10419301 Placed By : Cecilia Gil	355 L	1.30		461.50
10/14	4234683 CO	NIB - HEMET RYAN AIRPORT RUNWA Class : 10 Ctext Ad# 10419301 Placed By : Cecilia Gil	355 L	1.20		426.00

RECEIVED RIVERSIDE COUNTY  
 CLERK/BOARD OF SUPERVISORS  
 2010 OCT 21 PM 2:40

*EDA*  
 3.36 of 09/28/10  
*hr*

⑲ CURRENT NET AMOUNT DUE	⑳ 30 DAYS	㉑ 60 DAYS	㉒ OVER 90 DAYS	* UNAPPLIED AMOUNT	⑳ PLEASE PAY THIS AMOUNT
					887.50

THE PRESS-ENTERPRISE  P.O. BOX 12009 RIVERSIDE, CA 92502-2209 TELEPHONE (951) 368-9711 (951) 368-9720 (951) 368-9713

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㉓ STATEMENT NUMBER	① BILLING PERIOD	② BILLED ACCOUNT NUMBER	③ ADVERTISER/CLIENT NUMBER	④ ADVERTISER/CLIENT NAME
56565451	10/14/10 - 10/14/10	045202		BOARD OF SUPERVISORS



# THE PRESS-ENTERPRISE

3450 Fourteenth Street  
Riverside CA 92501-3878  
951-684-1200  
951-368-9018 FAX

**PROOF OF PUBLICATION  
(2010, 2015.5 C.C.P.)**

Press-Enterprise

PROOF OF PUBLICATION OF

Ad Desc.: NIB - Hemet Ryan Airport Runway Apr

I am a citizen of the United States. I am over the age of eighteen years and not a party to or interested in the above entitled matter. I am an authorized representative of THE PRESS-ENTERPRISE, a newspaper of general circulation, printed and published daily in the County of Riverside, and which newspaper has been adjudicated a newspaper of general circulation by the Superior Court of the County of Riverside, State of California, under date of April 25, 1952, Case Number 54446, under date of March 29, 1957, Case Number 65673 and under date of August 25, 1995, Case Number 267864; that the notice, of which the annexed is a printed copy, has been published in said newspaper in accordance with the instructions of the person(s) requesting publication, and not in any supplement thereof on the following dates, to wit:

10-07-10  
10-14-10

I Certify (or declare) under penalty of perjury that the foregoing is true and correct.

Date: Oct. 14, 2010  
At: Riverside, California



BOARD OF SUPERVISORS

P.O. BOX 1147  
COUNTY OF RIVERSIDE  
RIVERSIDE CA 92502

Ad #: 10419301

PO #:

Agency #: \_\_\_\_\_

Ad Copy:

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Engineer's Estimate: Hemet-Ryan Airport Apron Rehabilitation -Base Bid Schedule A	\$630,000.00
Bid Bond:	10%
Performance Bond:	100%
Payment Bond:	100%
Working Days:	65 working days

Dated: October 5, 2010  
Kecia Harper-Ihem, Clerk of the Board  
By: Cecilia Gil, Board Assistant

10/7, 14

# MEMORANDUM


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RIVERSIDE COUNTY COUNSEL

December 21, 2010

TO: Jane Jennings  
Clerk of the Board

FROM: Neal Kipnis  
Deputy County Counsel 

RE: Hemet Ryan Runway Rehab

I am returning the bids for this project. The low bid of Southwest Construction is approved as to form.

Please let me know if you have any questions. Best wishes for the holidays and the new year.

Enclosures

## Bid Summary

TO: Pamela J. Walls  
County Counsel

PROJECT: Hemet-Ryan Airport Runway  
Rehab

FROM: Cecilia Gil 955-8464  
Clerk of the Board

BID DATE: 11/09/10

Project Mgr: Chad Davies 955-9417  
EDA

BID TIME: 2:00 p.m.

ITEM/DATE: 3.36 of 09/28/10

**(PLEASE REFER ALL QUESTIONS TO THE PROJECT MANAGER)**

### CONTRACTORS

### BID AMOUNT

---

Southwest Construction  
2909 Rainbow Valley  
Fallbrook, CA 92028  
(760) 728-4460

Base Bid: \$472,033.90  
Bid Alternate: \$ 44,375.00

---

ASR Constructors, Inc.  
5230 Wilson Street  
Riverside, CA 92509  
(951) 779-6580

Base Bid: \$487,000.00  
Bid Alternate: \$ 61,000.00

---

Team West Contracting Corp.  
1151 Pomona Rd., Suite J  
Corona, CA 92882  
(951) 340-3426

Base Bid: \$537,765.85  
Bid Alternate: \$ 48,835.20

---

All American Asphalt  
P.O. Box 2229  
Corona, CA 92878  
(951) 736-7600

Base Bid: \$611,000.00  
Bid Alternate: \$ 61,000.00

---

Bogh Engineering, Inc.  
252 W. 4th Street, Suite E  
Beaumont, CA 92223  
(951) 845-4607

Base Bid: \$844,597.00  
Bid Alternate: \$ 86,316.00

---

+ One Box

RECEIVED

NOV 10 2010

COUNTY COUNSEL  
TO

MLV

# COUNTY OF RIVERSIDE

## HEMET-RYAN AIRPORT

AIP PROJECT NO. 3-06-0104-011-2010

## APRON REHABILITATION PROJECT

Bid Opening: November 9, 2010, at 2:00 p.m.

### CONTRACT DOCUMENTS AND SPECIFICATIONS



**Riverside County Board of Supervisors**

Marion Ashley, Chairman  
Bob Buster, Vice Chairman  
John F. Tavaglione  
John J. Benoit  
Jeff Stone

**Riverside County E.D.A. Aviation Division**

Robert Field, Assistant County Executive Officer  
Colby Cataldi, Assistant Director

**County of Riverside**

Employment Development Agency  
Aviation Division  
3403 10<sup>th</sup> Street, Suite 500  
Riverside, California 92501  
(951) 955-9722  
[www.rivcoeda.org](http://www.rivcoeda.org)

**Mead & Hunt, Inc.**

133 Aviation Boulevard, Suite 100  
Santa Rosa, California 95403  
(707) 526-5010  
[www.meadhunt.com](http://www.meadhunt.com)

**DIVISION I – BIDDING AND CONTRACT DOCUMENTS**

Advertisement for Bids  
Location Map  
Instructions to Bidders

**Proposal Forms**

Construction of Airport Improvements  
Bid Schedule of Contract Prices  
Designation of Subcontractors  
Bidder's Statement on Previous Contracts Subject to EEO Clause  
Certification of Nonsegregated Facilities  
Certification of Bidder Regarding Affirmative Action Program  
Disadvantaged Business Enterprise (DBE Utilization)  
Certification Regarding Foreign Trade Restrictions  
Buy American Certificate  
Suspension and Debarment Requirements on All Contracts Over \$25,000  
Affidavit for Individual Contractors  
Affidavit for Joint Venture of Co-Partnership Contractor  
Affidavit for Corporate Contractor  
Bid Bond

**Sample Forms**

Contract Agreement  
Performance Bond  
Payment Bond  
DBE Letter of Intent

**DIVISION II – FAA REQUIRED PROVISIONS**

Section 1 Requirements for Bids for AIP Contracts  
Section 2 Standard Federal Contract Clauses and Requirements for Construction Contracts  
Section 3 Standard Federal EEO Requirements  
Section 4 Requirements Under the DBE Program  
Section 5 Wage Rates  
    Exhibit 5A Federal Wage Rates  
    Exhibit 5B State Wage Rates

**DIVISION III – GENERAL PROVISIONS**

Section 10 Definition of Terms  
Section 20 Proposal Requirements and Conditions  
Section 30 Award and Execution of Contract  
Section 40 Scope of Work  
Section 50 Control of Work  
Section 60 Control of Materials  
Section 70 Legal Relations and Responsibility to Public  
Section 80 Prosecution and Progress  
Section 90 Measurement and Payment

**DIVISION IV – SPECIAL PROVISIONS**

- Section 1 Special Provisions for Airport Construction
- Section 2 Safety and Operations Plan
  - Appendix A – Kleinfelder Geotechnical Report
  - Appendix B – Operational Safety on Airports During Construction

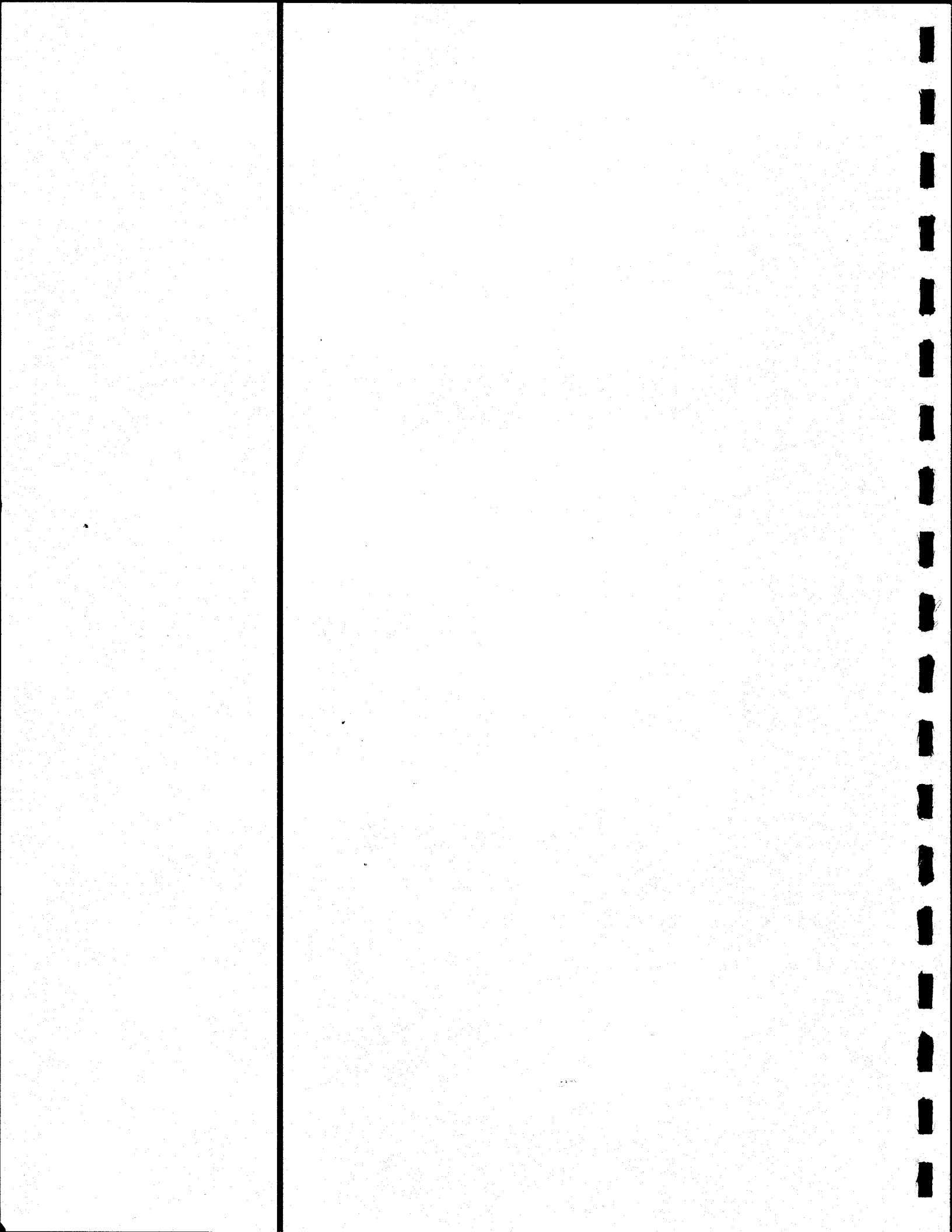
**DIVISION V – TECHNICAL SPECIFICATIONS**

- Section 1 Mobilization
- Section 2 Surface Preparation
- Section 3 AC Pavement Pulverization, Cold Milling and Recycling
- Section 4 Earthwork and Site Preparation, Item P-152
- Section 5 Controlled Low Strength Material (CLSM), Item P-153
- Section 6 Joint Sealing Filler, Item P-605
- Section 7 Asphalt Rejuvenating Seal, Item P-609B
- Section 8 Fuel Resistant Seal
- Section 9 Major Crack Repair and Minor Crack Seal
- Section 10 Aggregate Bases (Modified Caltrans)
- Section 11 Asphalt Concrete (Modified 2006 Caltrans)
- Section 12 Portland Cement Concrete (Caltrans)
- Section 13 Pavement Marking, Item P-620

**PROPOSAL PACKET IN ENVELOPE (Inside Back Cover)**

**DIVISION I**

**Bidding and Contract Documents**





## ADVERTISEMENT FOR BIDS

Sealed proposals for construction of airport improvements at Hemet Ryan Airport "Apron Rehabilitation Project" will be received at the offices of the Clerk of the Board of Supervisors for the County of Riverside, 4080 Lemon Street, First Floor, Riverside, California 92501 until 2:00 p.m. November 9, 2010, and then will be publicly opened and read. The work contemplated consists of the following:

### **HEMET-RYAN AIRPORT - AIP-3-06-0104-011-2010**

- Pavement Rehabilitation by Seal Coat Application
- Minor and Major Crack Repair
- Full Depth Pavement Removal and Replacement
- PCC Valley Gutter Repairs
- Paint Striping

Each bid shall be in accordance with the PLANS and SPECIFICATIONS and other Contract Documents now on file with the Riverside County Economic Development Agency – Aviation Division, 3403 10<sup>th</sup> Street, Suite 500, Riverside, California 92501. A copy of the PLANS, SPECIFICATIONS, and Bid Documents may be secured from the office of Mead & Hunt, Inc., 133 Aviation Boulevard, Suite 100, Santa Rosa, California 95403, telephone (707) 526-5010, fax (707) 526-9721, upon non-refundable payment of \$100.00.

Each bidder must supply all the information required by the Bid Documents and SPECIFICATIONS. All proposals sent by mail must be posted so as to be in the hands of the County of Riverside, by the hour and date set forth above for the bid opening. All proposals shall be addressed to:

**The Clerk of the Board of Supervisors, County of Riverside, 4080 Lemon Street, First Floor,  
Riverside California 92501**

and marked:

### **HEMET-RYAN AIRPORT - AIP-3-06-0104-011-2010, APRON REHABILITATION PROJECT**

The proposed CONTRACT is under and subject to Executive Order 11246, as amended, of September 24, 1965, and to the Equal Employment Opportunity (EEO) and Federal Labor Provisions. All labor on the PROJECT shall be paid no less than the higher of either the prevailing State wage rates established by the Director of the State of California, Department of Industrial Relations, or the prevailing Federal wage rates established by the U.S. Secretary of Labor.

The EEO requirements, labor provisions, and wage rates are included in the SPECIFICATIONS and Bid Documents and are available for inspection at the County of Riverside, Economic Development Agency – Aviation Division, 3403 10<sup>th</sup> Street, Suite 500, Riverside, California 92501. Each bidder must complete, sign, and furnish with his bid the "Bidder's Statement on Previous Contracts Subject to EEO Clause", a "Certification of Non-segregated Facilities", and the "Assurance of Disadvantaged Business Enterprise Participation" as contained in the Bid Proposal.

To be eligible for award, each bidder must comply with the affirmative action requirements which are contained in the SPECIFICATIONS. A contractor having fifty (50) or more employees and his subcontractors having fifty (50) or more employees and who may be awarded a contract of \$50,000 or more will be required to maintain an affirmative action program, the standards for which are contained in the SPECIFICATIONS.

The requirements of 49 CFR Part 26, Regulations of the U.S. Department of Transportation, apply to this CONTRACT. It is the policy of the County of Riverside to practice nondiscrimination based on race, color, sex, or national origin in the award or performance of this CONTRACT. All firms qualifying under this solicitation are encouraged to submit bids/proposals. Award of this CONTRACT will be conditioned upon satisfying the Good Faith Effort requirements specified in Div 11, Section 4-4. These requirements apply to all bidders/offerors, including those who qualify as a DBE. A DBE CONTRACT goal of **twelve percent (12%)** has been established for this CONTRACT. The bidder/offeror shall make good faith efforts, as defined in Appendix A, 49 CFR Part 26, to meet the CONTRACT goal for DBE participation in the performance of this CONTRACT.

The bidder/offeror will be required to submit the following information: (1) the names and addresses of DBE firms that will participate in the CONTRACT; (2) a description of the work that each DBE firm will perform; (3) the dollar amount of the participation of each DBE firm participating; (4) written documentation of the bidder/offeror's commitment to use a DBE subcontractor whose participation it submits to meet the CONTRACT goal; (5) written confirmation from the DBE that it is participating in the CONTRACT as provided in the commitment made under (4); and (5) if the CONTRACT goal is not met, evidence of good faith efforts. The bidder/offeror shall submit the information prior to a commitment by the County of Riverside to award the CONTRACT to the apparent successful competitor, as a condition of responsibility, within ten (10) days of County of Riverside's request.

DBE participation in this CONTRACT may be in the form of a prime contract, subcontract, joint venture, or another arrangement that qualifies under 49 CFR Sections 26.55, "How is DBE participation counted toward goals?" or 26.53(g). (See Proposal Forms and Sample Letter of Intent.)

All solicitations, contracts, and subcontracts resulting from projects funded under this CONTRACT are subject to the foreign trade restriction required by 49 CFR Part 30, Denial of Public Works Contracts to Suppliers of Goods and Services of Countries That Deny Procurement Market Access to U.S. Contractors. The Aviation Safety and Capacity Expansion Act of 1990 provides that preference be given to steel and manufactured products produced in the United States when funds are expended pursuant to a grant issued under the Airport Improvement Program.

Each proposal must be accompanied by a certified check, cashier's check, or bid bond in an amount not less than ten percent (10%) of the amount bid. The successful bidder shall submit at the time of execution of the CONTRACT, a Performance Bond along with a Payment Bond (Labor and Material), each for one hundred percent (100%) of the CONTRACT PRICE, and required proof of insurance. Surety company shall be licensed in the State of California and have a Best's rating of "A" or better with a financial size of V or better.

The COUNTY shall have the right to reject any bids presented in accordance with Section 20150.9 of the California Public Contracts Code.

Engineer's Estimate:	Hemet-Ryan Airport Base Bid	\$650,000.00
	Apron Rehabilitation - Bid Alternate A	\$75,810.00
Bid Bond:		10%
Performance Bond:		100%
Payment Bond:		100%
Working Days:		65 working days

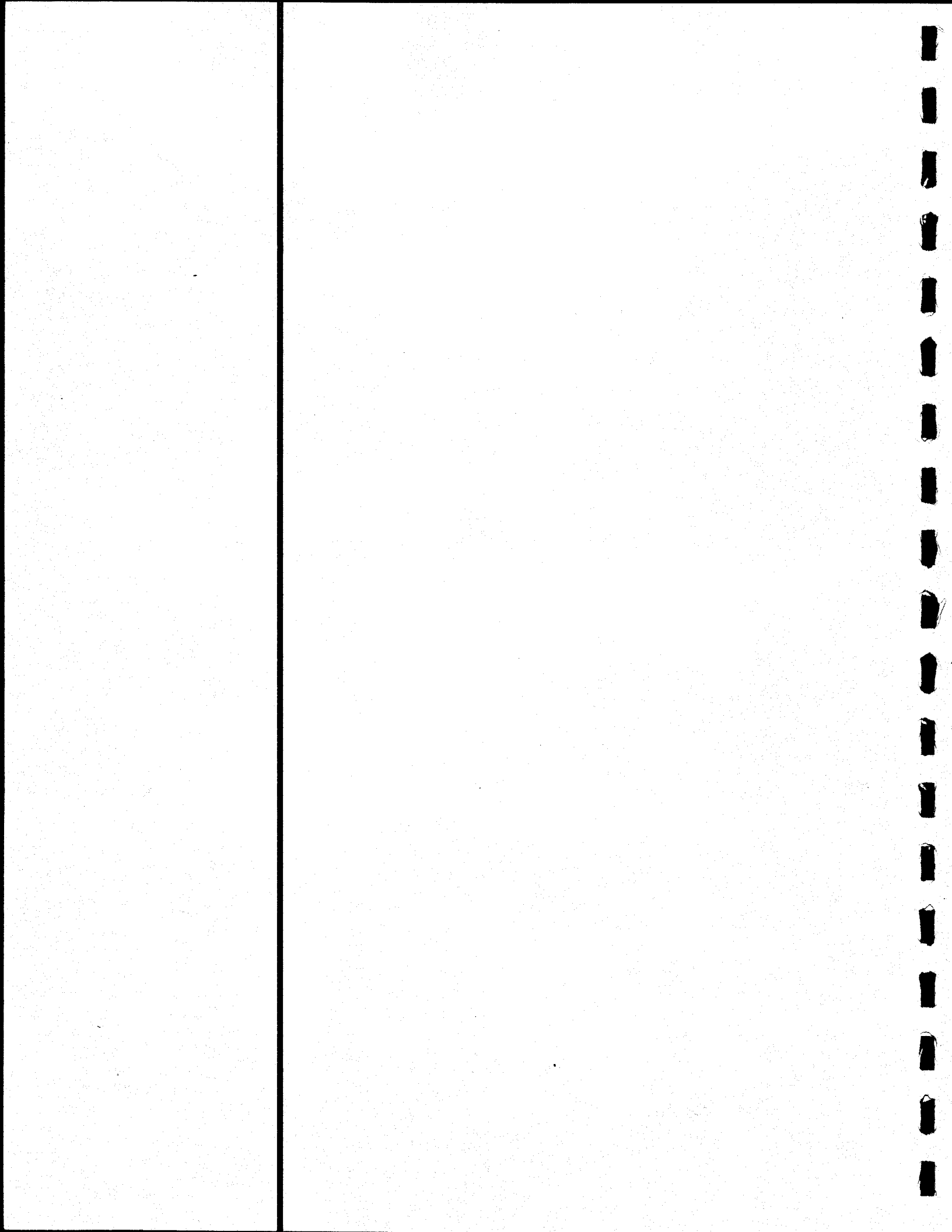
Date: 11-8-10

By: [Signature]



# VICINITY MAP

NOT TO SCALE



## INSTRUCTIONS TO BIDDERS

### 1. **Proposal Requirements:**

- A. **General Requirements.** The Contractor's attention is directed to Division III, Section 2, "Proposal Requirements and Conditions," for general details on the preparation of proposals for this project.
- B. **Federal Requirements.** This project is funded by the FAA and as such is subject to extensive Federal Requirements in the areas of labor, wage rates, notices for contracts, and bidding provisions. The Contractor's attention is directed to Division II, Sections 1 through 5 for detailed information on FAA required provisions.

### 2. **Description of Work:** The scope of work for this project consists of the following elements:

- Pavement Rehabilitation by Seal Coat Application
- Minor and Major Crack Repair
- Full Depth Pavement Removal and Replacement
- PCC Valley Gutter Repairs
- Paint Striping

### 3. **Basis of Contract Award:** Each contractor shall complete the Base Bid Schedule and Bid Alternate A. If awarded, the County will award one contract to the lowest total bid for Base Bid Schedule or Base Bid Schedule and Bid Alternate A, depending on the availability of funds. All bids shall be valid for a period of ninety (90) calendar days from the opening date.

### 4. **Time and Place of Receiving Proposals:** Sealed bids will be received by the office of the Clerk of the Board of Supervisors, County of Riverside, 4080 Lemon St., 1<sup>st</sup> floor, Riverside, California 92501, until 2:00 p.m. Pacific Daylight time, Tuesday, November 9, 2010, at which time the bids will be publicly opened and read.

### 5. **Pre-Bid Meeting:** A Pre-Bid Meeting may be scheduled, depending on the level of interest expressed by bidders. Regardless, all bidders are encouraged to visit the site. If the decision is made to hold a pre-bid meeting, all bidders will be notified of the time and place.

### 6. **Time of Completion:** The time of completion for the Project is sixty five (65) working days, if all bid schedules are awarded. Additional information regarding contract time and other limitations on construction is contained in Division IV, Special Provisions for Airport Construction.

### 7. **Liquidated Damages:** The Contract is subject to liquidated damages which are described in Division IV, Special Provisions.

### 8. **Interpretation of Drawings and Documents:** If any bidder is in doubt as to the true meaning of any part of the Plans, Specifications, or other Contract Documents, or finds discrepancies in or omissions from the Plans and Specifications, he may submit his questions or request for clarification in writing to the Engineer not later than five (5) working days before the date set for receipt of bids. The person submitting the request will be responsible for its prompt delivery. Any interpretation or correction of the Contract Documents will be made only by Addendum and will be mailed or delivered to each person receiving a set of such documents.

9. **Bid Bond:** Each proposal shall be accompanied by a bid guarantee equivalent to ten percent (10%) of the bid price. The "bid guarantee" shall consist of a firm commitment such as a bid bond, certified check, or other negotiable instrument accompanying a bid as assurance that the bidder will, upon acceptance of his bid, execute such contractual documents as may be required within the time specified.
10. **Performance and Payment Bonds:**
  - A. The Contractor agrees to furnish a performance bond for 100 percent of the contract price. This bond is one that is executed in connection with a contract to secure fulfillment of all the Contractor's obligations under such contract.
  - B. The Contractor agrees to furnish a payment bond for 100 percent of the contract price. This bond is one that is executed in connection with a contract to assure payment as required by law of all persons supplying labor and material in the execution of the work provided for in the contract.
11. **Disadvantaged Business Enterprise:** The DBE goal for this project is twelve percent (12%). For credit to be allowed toward the DBE goal for this project, prospective DBEs must be certified by Caltrans, or other agency acceptable to the County, on the date bids for the Project are opened (see Division II, Section 4).
12. **Minimum Wage and Certified Payroll:** Labor on this project shall be paid no less than the greater of the minimum wage rates established by the U.S. Secretary of Labor or by the State of California's Director of the Department of Industrial Relations. The Contractor shall comply with Division II, Section 2-4 and Division II, Section 5 of these Specifications.
13. **Project Information:** General and technical information can be obtained from the offices of Mead & Hunt, 133 Aviation Blvd., Ste. 100, Santa Rosa, California 95403; phone (707) 526-5010.
14. **Contractor's License.** Each bidder must have a Class A California Contractor's License as required under provisions of the California Business and Professions Code.
15. **Plans and Specifications.** The Contractor will be provided *five* (5) sets of Plans and Specifications at the Preconstruction Conference. Additional sets will be available from the Engineer at their reproduction costs. Quantities stated in the Contract Documents are approximate only and are subject to correction upon final measurement of the work accomplished and subject further to right reserved by the County to increase or diminish the amount of work under any classification, as the design or construction needs require.
16. **Proposal Packet.** Bids shall be made upon the proposal forms in this packet. The forms may be removed or duplicated. The Bidder must supply all information required by the Bid Documents. See Division II, Sections 1 through 5 and Division III, Section 2 for details on the preparation of proposals for this project.
17. **Addenda:** Any irregularities or lack of clarity in the Invitation and Bid must be brought to the attention of Mead & Hunt, Inc. in writing no less than five (5) business days prior to the Bid opening. Unless so noted, subject matters shall be interpreted to favor the County. If deemed necessary, written addenda shall be issued to all holders of Bid Documents, with said documents considered modified or amended by addenda so issued. All addenda must be acknowledged by signature where provided and returned, either with the Bid submission or under separate cover clearly marked with the Bid number and date of opening, prior to the close of the Bid receiving period. Verbal interpretations are not to be relied upon. **FAILURE OF THE BIDDER TO CALL**

ATTENTION TO IRREGULARITIES OR LACK OF CLARITY WILL NOT RELIEVE THE BIDDER OF PERFORMANCE UNDER THE CONTRACT.

18. **Examination of the Job Site:** Prior to the submission of a bid, the BIDDER shall examine the job site to become familiar with the existing conditions. Although public property, job site visits must be arranged with and approved by the County prior to the visit. Any discrepancy between the Bid Documents and actual site conditions shall immediately be brought to the attention of the owner in writing. Failure to examine the job site or call attention to discrepancies shall not relieve the Contractor of performance under any contract issued as a result of his bid. Any pre-bid conference shall be specified elsewhere in these documents, if required.
19. **Bid Evaluation:** The products and materials bid shall be new and of current manufacture unless otherwise stated in the Bid and shall be bid F.O.B. destination. Delivery must be stated in realistic terms and will be a factor in vendor evaluation.
  - A. Bids will be evaluated for price (see paragraph 43 regarding unbalanced pricing), conformance to the specifications, Terms and Conditions, Instructions to Bidders, Special Conditions, experience, and other factors as appropriate, with the award, if made, will be to the BIDDER(s) deemed of greatest advantage to the County. The County reserves the right to accept or to reject any or all or any part of a bid received, to waive irregularities, and to hold Bids for ninety (90) days prior to the award. Award will be made pending FAA review of Bids and confirmation of available funds.
20. **Collusion:** Any agreement or collusion among bidders or prospective bidders to bid a fixed price or restrict the competitive bid process in any way shall render the Bids of such bidders void.
21. **Interest in More Than One Bid:** No person, firm, or corporation, under the same or a different name, shall make, file, or be interested in more than one (1) Bid for the same work unless alternate Bids are requested, however, submitting a subcontractors Bid or material quotation to more than one (1) bidder will not disqualify the subcontractor or material supplier.
22. **Independent Contractor Status:** The parties agree that the Contractor shall have the status of and shall perform all work under this contract as an independent contractor, maintaining control over all its consultants, subconsultants, contractors, or subcontractors. The only contractual relationship created by this contract is between the County and the Contractor, and nothing in this contract shall create any contractual relationship between the County and Contractor's consultants, subconsultants, contractors, or subcontractors. The parties also agree that this contract, by explicit agreement of the parties, that Contractor is not a County employee and that there shall be no:
  - A. Withholding of income taxes by the County;
  - B. Industrial insurance coverage provided by the County;
  - C. Participation in group insurance plans which may be available to employees of the County;
  - D. Participation or contributions by either the independent contractor or the County to the public employees' retirement system;
  - E. Accumulation of vacation leave or sick leave.
23. **Permits, Fees, Licenses, and Taxes:** The Contractor shall be responsible for securing all required permits, for all approvals or reviews, and for any required licenses. The County shall pay all fees. All such costs are NOT to be included in the Bid price.

24. **Pre-Construction Meeting:** The Contractor and subcontractors shall attend a pre-construction meeting with representatives of the County to discuss specific project procedures. The pre-construction meeting may be waived by mutual agreement of the Contractor and the County.
25. **Construction Schedule:** The Contractor shall submit a construction schedule to the County prior to the pre-construction meeting. The construction schedule shall establish the start and completion dates for each phase of the project in sufficient detail to relate to the progress payment schedule of values. The County shall review and approve the schedule prior to commencement of work.
26. **Temporary Construction Facilities:** The Contractor shall provide a temporary on-site restroom facilities. The construction restroom facilities are to be provided at no cost to the County. Portable restrooms are to be emptied daily. Upon substantial completion, the temporary facilities are to be promptly removed and the site restored to the conditions existing prior to installation or as specified in the Scope of Work.
27. **Construction Utilities:** The Contractor shall arrange for and bear the cost of all temporary construction utilities including water for dust control.
28. **Compliance:** The Contractor shall be responsible for complying with all County, State, and Federal Codes, Laws, Statutes, Regulations, Ordinances, and Policies, as applicable, in the performance of the contract.
29. **Access to the Work Site:** The Contractor, in the performance of the contract, shall not be unduly denied access to the work site provided that such access does not interfere with normal County operations unless prior arrangements have been made with the County.
30. **Worksite Security/Safety:** The Contractor shall provide barricades, fencing, exhaust fans, temporary closures, hoods, drapes, or any other temporary structure required to protect County personnel and the general public from accidental injury, illness, or death during the term of the project. The Contractor shall be responsible for securing the project to prevent theft, vandalism, or arson of the County's or the Contractor's property, materials, equipment, and supplies. The County shall not be responsible for any property, equipment, materials, or supplies of the Contractor. The Contractor shall be responsible for any theft, vandalism, or arson of County property, materials, equipment, or supplies if such loss is due to the negligence of the Contractor.
31. **Damage to County Property:** Any damage to the County's real or personal property caused by the Contractor, his subcontractors, or agents shall be promptly repaired or replaced to the approval of the County.
32. **Clean-up:** In the performance of the contract, the Contractor shall keep the job site cleared of rubbish, debris, and scrap material. Upon completion of the project all equipment, tools, supplies, and materials which are not the property of the County shall be promptly removed from the job site. The job site and surrounding areas are to be restored to the conditions existing prior to the commencement of work under the contract unless specifically modified by the Scope of Work under the project.
33. **Utilities:** The location of all known utilities underground, above ground, or enclosed within a structure are indicated in the Bid Documents to the best knowledge of the Engineer. It is the responsibility of the Contractor to verify the location of all known or suspected utilities by contacting the utility owner prior to undertaking any excavation or demolition and to arrange for any interruption or termination of service. Any damage to known or suspected utilities caused by the Contractor's failure to verify the location with the owner of the utility shall be repaired or



replaced at the expense of the Contractor. The Contractor shall notify the County forty-eight (48) hours in advance of any planned utility interruption. Should utilities not be located as indicated to the Contractor, the Contractor is entitled to compensation for determining the true location of the utility.

34. **Layout:** The County shall provide vertical and horizontal construction reference points. Job layout shall be the responsibility of the Contractor and shall be included in the Bid price.
35. **Workmanship:** All work shall be performed by competent personnel under the direction of a qualified project superintendent who shall be the representative of the Contractor. Work performed shall meet the workmanship standards for the trade involved. All materials and equipment installed by the Contractor shall be new, of suitable quality, and conform to all Specifications and/or Drawings. The use of other than new materials or equipment is not acceptable without the written consent of the Owner and will include a mutually agreeable cost reduction.
36. **Schedule of Values:** A schedule of value(s) shall be provided for each lump sum bid item during Mobilization, but not later than 10 working days before the first progress payment. The schedule of values shall be in the form of a detailed, itemized cost breakdown of the lump sum amount, including profit, overhead. Any work to be performed by subcontractors shall be listed. The schedule of values, once established, will serve as the basis for estimating or evaluating the percentage of lump sum work completed for progress payments. Progress payments on Unit Price Work will be based on the number of units completed. The schedule of values may also be used to evaluate the impact of unbalanced pricing (see paragraph 43 below).
37. **Progress Payments:** Progress payments may be authorized by the County if the project duration exceeds thirty (30) calendar days. Progress Payment Requests are to be submitted to the Engineer accompanied by a schedule of values in the form of a Payment Request. Progress payments will be authorized by the County Project Manager. The County reserves the right to reduce the Progress Payment amount if in the opinion of the Engineer, Project Manager, or the Purchasing and Contracts Administrator, the values on the Schedule of Values exceed the amount of work completed or material delivered to the job site. Any such changes will be reviewed with the Contractor.
38. **Retention:** Progress payments shall be subject to ten percent (10%) retention until the project is at least ninety percent (90%) complete and may be reduced thereafter. Within thirty-five (35) days following publication of the Notice of Completion (Contracts over \$20,000) the retention may be reduced to an amount equal to twice the estimated value of any uncompleted work.
39. **Fair Employment Practices:** In connection with the performance of work under this contract, the Contractor agrees not to discriminate against any employee or applicant for such employment because of race, creed, color, national origin, sex or age. Such agreement shall include, but not be limited to, the following: Employment, upgrading, demotion or transfer, recruitment or recruitment advertising, layoff or termination, rates of pay or other forms of compensation, and selection for training, including apprenticeship.

The Contractor acknowledges awareness of and is fully informed of the Contractor's obligations under Executive Order 11246 and, where applicable, shall comply with the requirements of the Order and all other orders, rules, and regulations promulgated under the Order unless exempted from therefrom.

Without limitation of the foregoing, Contractor's attention is directed to 41 C.F.R. § 60-1.4, and the clause entitled "Equal Opportunity Clause" which, by reference, is incorporated into this contract, to 41 C.F.R. § 60-250 et seq. and the clause entitled "Affirmative Action Obligations of Contractors and Subcontractors for Disabled Veterans and Veterans of the Vietnam Era", which, by reference, is incorporated in this contract, and to 41 C.F.R. § 60-471 and the clause entitled "Affirmative Action Obligations of Contractors and Subcontractors for Handicapped Workers", which, by this reference, is incorporated in this contract.

Contractor agrees to assist Disadvantaged Business Enterprises in obtaining business opportunities by identifying and encouraging disadvantaged suppliers, consultants, and subconsultants to participate to the extent possible, consistent with their qualifications, quality of work, and obligation of Contractor under this contract.

The Contractor further agrees to insert these provisions in all subcontracts hereunder, except subcontracts for standard commercial supplies or raw materials. Any violation of such provision by a contractor shall constitute a material breach of contract.

40. **Appeal by Unsuccessful Bidders:** Any unsuccessful Bidder may appeal a pending Bid award prior to award by the County. The appellant must:

- A. Submit a written protest to the County within five (5) workdays after the Bid opening.
- B. Describe, in the written protest, the issues to be addressed on appeal.
- C. Post, with the written protest, a bond with good and solvent surety authorized to do business in this state or submit other security in a form approved by the County, who will hold the bond or security until a determination is made on the appeal.
- D. Post the bond or other security in the amount of twenty-five (25%) of the total dollar value of appellant's Bid, up to a maximum bond or other security amount of \$250,000.
- E. Not seek any type of judicial intervention until the County has rendered its final decision on the protest.

41. **Suspension and Debarment Requirements for Federal Contracts:** For Federally-funded Public Works, the Bidder certifies, by submission of this Bid or acceptance of this Contract, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. It further agrees by submitting this Bid that it will include this clause without modification in all lower tier transactions, solicitations, bids, contracts, and subcontracts. Where the Bidder/Contractor or any lower tier participant is unable to certify to this statement, it shall attach an explanation to the solicitation/proposal.

42. **Contractor's Employees and Employee Identification:**

- A. Contractor must submit a current list of full names i.e., first, middle, and last (no nicknames) addresses, birth dates, social security numbers, driver's license numbers, and last known address of all employees who perform work in County facilities under this Contract. Changes in the employment list must be reported to The County within 24 hours.
- B. Laminated type identification badges must be furnished by the Contractor and worn by all Contractor's employees while on County premises. The badge will have the employee's picture, name, signature, and social security number.

43. **Unbalanced Pricing is not allowed.** An offer with unbalanced pricing may increase performance risk and could result in payment of unreasonably high prices or payment for work not done. Unbalanced pricing exists when, despite an acceptable total evaluated price, the price of one or more contract line items is significantly over or understated, as indicated by the application of cost or price analysis techniques. The greatest risks associated with unbalanced pricing occur when:

- A. Startup work, mobilization, first articles, or first article testing are separate line items and they are unbalanced. This could result in a bidder receiving a substantial up-front payment for work that may not be completed at the time payment is made; or payment for work that is never performed.
- B. Base quantities and option (Bid Alternate) quantities are separate line items and some of the costs for the optional items is included in the base items; or
- C. Some of the cost of a pay item is included in the bid price of another pay item and the second items quantity is increase, or the first items quantity is decreased, thus payments are made that include profit for work that is never done.

All offers with separately priced line items or sub-line items shall be analyzed to determine if the prices are unbalanced. If an offer is deemed to be unbalanced, the County shall:

- A. Consider the risks to the County associated with the unbalanced pricing in determining the competitive range and in making the award decision; and
- B. Consider whether award of the contract will result in paying unreasonably high prices for contract performance and whether the award fails to represent the lowest ultimate cost to the County.

An offer may be rejected if the County determines that the lack of balances poses an unacceptable risk to the County. The County reserves the right to delete all or part of an item that is determined to be unbalanced.

44. **Federal Assurances:** Contractors and subcontractors are advised that this project requires:

- A. Payment of Federal Wage Rates,
- B. Compliance with EEO criteria,
- C. Certification of non-segregated facilities,

45. **Buy American Clause:** A Buy American clause applies to this project. See Division II, Section 1, Paragraph 1-7 of the FAA-required provisions.

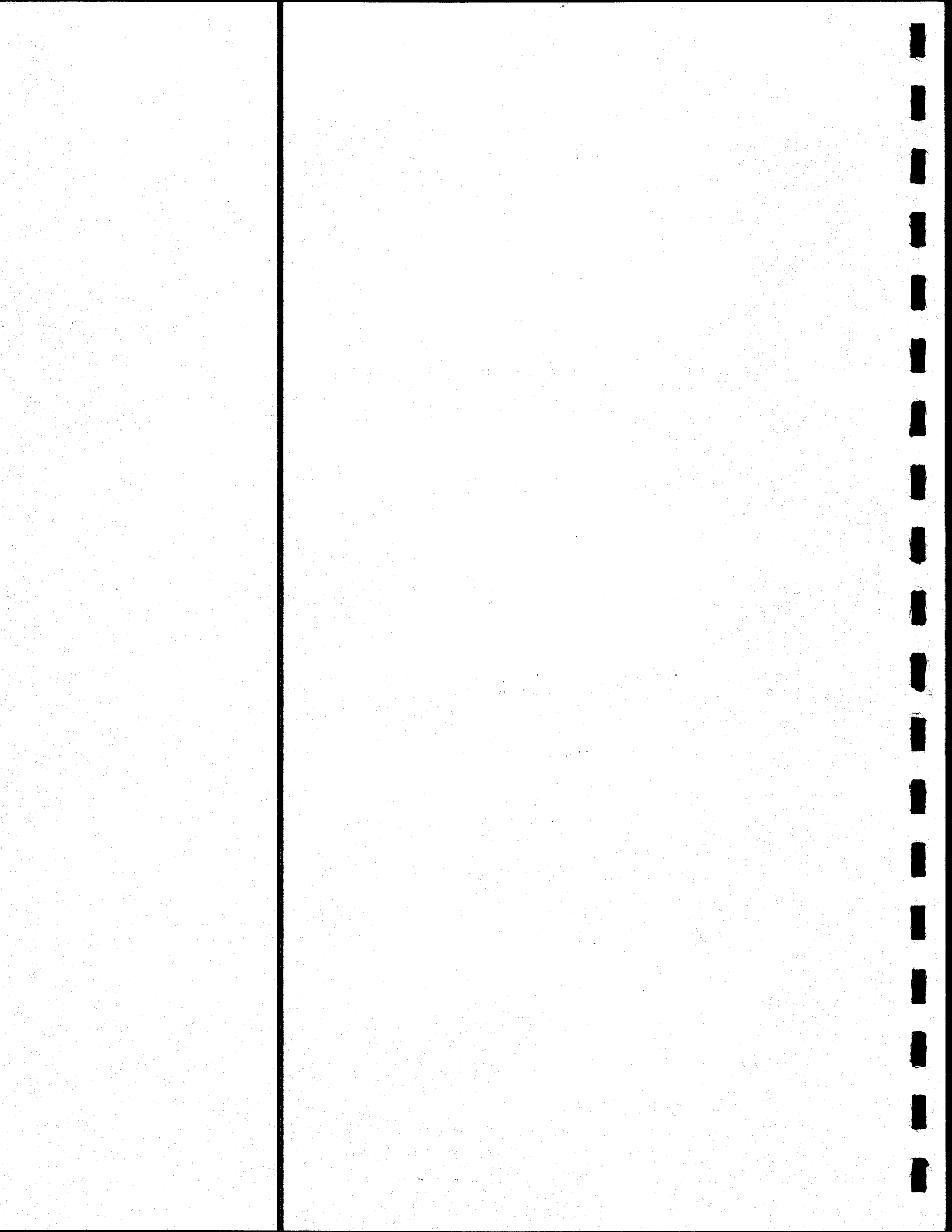
46. **Federal Subcontracting Requirements:** If Contractor awards a subcontract under this contract, Contractor, if applicable, shall use the following alternative steps:

- A. Placing Small Businesses in Rural Areas (SBRAs) on solicitation lists;
- B. Ensuring that SBRAs are solicited whenever they are potential sources;
- C. Dividing total requirements, when economically feasible, into small tasks or quantities to permit maximum participation by SBRAs;
- D. Establishing delivery schedules, where the requirements of work will permit, which would encourage participation by SBRAs;
- E. Using the services of the Small Business Administration and the Minority Business Development Agency of the United States Department of Commerce, as appropriate; and

F. Requiring the subcontractor, if it awards subcontracts, to take the affirmative steps set forth in Paragraph 39 above.

If applicable, Contractor agrees to complete and submit to the County a Minority Business Enterprise/Woman Business Enterprise (MBE/WBE) Utilization Report (Standard Form 334) within thirty (30) days after the end of each fiscal quarter until the end of the Contract.

# PROPOSAL FORMS



PROPOSAL FORM

CONSTRUCTION OF AIRPORT IMPROVEMENTS  
HEMET-RYAN AIRPORT  
AIP PROJECT NO. 3-06-0104-011-2010  
RIVERSIDE COUNTY, CALIFORNIA

FROM: DAVID SIMON, PRESIDENT

NAME OF BIDDER: SOUTHWEST CONSTRUCTION CO. INC.

BUSINESS ADDRESS: 2909 RAINBOW VALLEY BLVD, FALLBROOK CA 92028

BUSINESS TELEPHONE: 760-728-4460 AFTER-HOURS TELEPHONE: 760-275-4795

CONTRACTOR LICENSE NUMBER: 465118

TO: County of Riverside  
Economic Development Agency  
Aviation Division  
3403 10<sup>th</sup> Street, Suite 500  
Riverside, California 92501

Ladies and Gentlemen:

The undersigned, as bidder, *under penalty of perjury*, declares that the only persons or parties interested in this proposal as principals are those named herein: that this proposal is made without collusion with any other person, firm or corporation; that he has carefully examined the location of the proposed work, the proposed form of contract, the PLANS and SPECIFICATIONS herein referred to; and he proposes, and agrees if this proposal is accepted, that he will contract with the County of Riverside, in the form of the CONTRACT annexed hereto, to provide all necessary machinery, tools, apparatus and other means of construction, and to do all the work and furnish all the materials specified in the CONTRACT, in the manner and time therein prescribed, and according to the requirements of the ENGINEER as therein set forth, and that he will take in full payment therefore the following item prices, to wit:

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**BID SCHEDULE**  
**HEMET-RYAN AIRPORT**  
**APRON REHABILITATION PROJECT**  
**AIP NO. 3-06-0104-011-2010**

**BASE BID SCHEDULE**

Item	Description	Units	Approx. Quantity	Unit Price (In Figures)	Total Cost (In Figures)
1	Mobilization	LS	1	\$38,675.	\$38,675.00
2	Airfield Safety and Traffic Control	LS	1	\$26,335.	\$26,335.00
3	Surface Preparation (Rejuvenating Seal)	SY	95,665	\$ .41	\$39,222.65
4	Surface Preparation (Fuel-Resistant Seal)	SY	9,500	\$ .41	\$3,895.-
5	Pavement Pulverization	SY	2,900	\$ .40	\$1,160.-
6	Earthwork and Site Preparation	LS	1	\$16,002.	\$16,002.00
7	Subgrade Stabilization Rock	CY	95	\$25.	\$2,400.00
8	Subgrade Stabilization Geogrid	SY	285	\$9.68	\$2,758.00
9	Pavement Demolition	SY	280	\$30.00	\$8,400.00
10	Controlled Low Strength Material (CLSM), P-153	CY	20	\$170.00	\$3,400.00
11	Joint Seal	LF	16,000	\$2.50	\$40,000.00
12	Asphalt Rejuvenating Seal	SY	95,665	\$ .45	\$43,049.25
13	Fuel-Resistant Seal	SY	9,500	\$2.50	\$23,750.00
14	Minor Crack Repair	LF	1,500	\$3.17	\$4,755.00
15	Major Crack (Greater than 1-Inch) Repair	LF	200	\$71.50	\$14,300.00
16	Recycled AC/AB	CY	475	\$38.00	\$18,050.00
17	Aggregate Base	CY	300	\$40.00	\$12,000.00
18	Asphalt Concrete - Modified Caltrans Type A	TON	120	\$227.00	\$27,240.00
19	6-Inch PCC Apron (Caltrans PCC)	SY	2,500	\$41.50	\$103,750.00
20	6-Inch Valley Gutter (Caltrans PCC)	SY	60	\$67.50	\$4,050.00
21	10-Inch Valley Gutter, (Caltrans PCC)	SY	435	\$60.00	\$26,100.00
22	Pavement Marking, P-620	SF	13,850	\$ .92	\$12,742.00

**Total Base Bid Schedule (Items 1 through 22). Please indicate in figures:** \$ 472,033.90

**Total Base Bid Schedule (Items 1 through 22). Please indicate in writing:**  
**FOUR HUNDRED SEVENTY TWO THOUSAND THIRTY THREE AND 90/100**

**BID SCHEDULE  
HEMET-RYAN AIRPORT  
APRON REHABILITATION PROJECT  
AIP NO. 3-06-0104-011-2010**

**BASE BID SCHEDULE**

Item	Description	Units	Approx. Quantity	Unit Price (In Figures)	Total Cost (In Figures)
1	Mobilization	LS	1	\$	\$
2	Airfield Safety and Traffic Control	LS	1	\$	\$
3	Surface Preparation (Rejuvenating Seal)	SY	64,200	\$	\$
4	Surface Preparation (Fuel-Resistant Seal)	SY	9,500	\$	\$
5	Pavement Pulverization	SY	7,500	\$	\$
6	Earthwork and Site Preparation	LS	1	\$	\$
7	Subgrade Stabilization Rock	CY	95	\$	\$
8	Subgrade Stabilization Geogrid	SY	285	\$	\$
9	Pavement Demolition	SY	280	\$	\$
10	Controlled Low Strength Material (CLSM), P-153	CY	20	\$	\$
11	Joint Seal	LF	16,000	\$	\$
12	Asphalt Rejuvenating Seal	SY	64,200	\$	\$
13	Fuel-Resistant Seal	SY	9,500	\$	\$
14	Minor Crack Repair	LF	1,500	\$	\$
15	Major Crack (Greater than 1-Inch) Repair	LF	200	\$	\$
16	Recycled AC/AB	CY	475	\$	\$
17	Aggregate Base	CY	300	\$	\$
18	Asphalt Concrete – Modified Caltrans Type A	TON	120	\$	\$
19	6-Inch PCC Apron (Caltrans PCC)	SY	2,500	\$	\$
20	6-Inch Valley Gutter (Caltrans PCC)	SY	60	\$	\$
21	10-Inch Valley Gutter, (Caltrans PCC)	SY	435	\$	\$
22	Pavement Marking, P-620	SF	13,850	\$	\$

**Total Base Bid Schedule (Items 1 through 22). Please indicate in figures:**

\$ *N/A*

**Total Base Bid Schedule (Items 1 through 22). Please indicate in writing:**

*ADDENDUM #2*

**BID ALTERNATE A**

Item	Description	Unit	Est. Qty.	Unit Cost	Amount
A-1	Construction Safety and Traffic Control	LS	1	\$ 4500.-	\$ 4500.-
A-2	Surface Preparation (Rejuvenating Seal)	SY	13,900	\$ .45	\$ 6,255.-
A-3	Pavement Demolition	SY	40	<del>\$185.00</del>	\$ 7400.00
A-4	Joint Seal	LF	3,200	\$ 3.00	\$ 9,600.-
A-5	Asphalt Rejuvenating Seal	SY	14,000	\$ .45	\$ 6300.-
A-6	Minor Crack Seal	LF	200	\$ 4.10	\$ 820.-
A-7	Pavement Markings	SF	10,000	\$ .95	\$ 9500.-
<b>Total Bid Alternate A (Items A1 - A7). Please indicate in figures:</b>				\$	<b>44,375.00</b>
<b>Total Bid Alternate A (Items A1 - A7). Please indicate in writing:</b>				<b>FORTY FOUR THOUSAND THREE HUNDRED SEVENTY FIVE</b>	


The COUNTY reserves the right to reject any single bid, all bids or any individual bid schedule. The award, if made, will be to the lowest responsive Base Bid or Base Bid Schedule plus Bid Alternate A depending on the availability of funds.

Acknowledgment of Addenda

Addendum No. Initial

1 DLS

2 DLS

 PRESIDENT  
Signature/Title

SOUTHWEST CONSTRUCTION CO. INC.  
Company

465118 11-30-12  
Contractor's License Number/Expiration Date

NOTE: Contractor License Number and Expiration Date stated herein are made under penalty of perjury.

DESIGNATION OF SUBCONTRACTORS

Each bidder shall set forth below: (a) The name and the location of the place of business of each subcontractor who will perform work or labor or render service to the CONTRACTOR in or about the construction of the work in an amount in excess of one-half (1/2) of one percent (1%) of THE CONTRACTOR's total bid; and (b) The portion of the work which will be done by each subcontractor.

If the CONTRACTOR fails to specify a subcontractor for any portion of the work as above stated he agrees to perform that work himself. The CONTRACTOR shall not, without written consent of the OWNER, make any substitution, alterations, or additions to the following list of subcontractors which is made a part of this proposal.

1. NAME: AVIATION STRIPING  
ADDRESS: TEMECULA CA  
CONTRACT ITEMS: #3 #22 #A2 #A7 AMOUNT: \$ 57,427.7

2. NAME: SOUTHLAND PAVING  
ADDRESS: ESCONDIDO  
CONTRACT ITEMS: #5 #12 #13 #14 #15 #18  
A5 A6 AMOUNT: \$ 108,995.5

3. NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CONTRACT ITEMS: \_\_\_\_\_ AMOUNT: \$ \_\_\_\_\_

4. NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CONTRACT ITEMS: \_\_\_\_\_ AMOUNT: \$ \_\_\_\_\_

5. NAME: \_\_\_\_\_  
ADDRESS: \_\_\_\_\_  
CONTRACT ITEMS: \_\_\_\_\_ AMOUNT: \$ \_\_\_\_\_

6. ATTACH ADDITIONAL SHEET(S) IF MORE THAN 6 SUBCONTRACTORS ARE TO BE USED.

QUESTIONNAIRE

Has the bidder, any officer of the bidder, or any employee of the bidder who has a proprietary interest in the bidder, ever been disqualified, removed, or otherwise prevented from bidding on, or completing a Federal, State, or local government project because of a violation of law or a safety regulation?

Yes \_\_\_\_\_ No

If the answer is yes, attach an explanation of the circumstances.

Signed \_\_\_\_\_

**BIDDER'S STATEMENT ON**

**PREVIOUS CONTRACTS**

**SUBJECT TO EEO CLAUSE**

Each bidder, prospective prime CONTRACTOR, and proposed subcontractor must complete the following form:

The Bidder (Proposer) shall complete the following statement by checking the appropriate boxes:

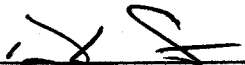
The Bidder (Proposer) has  has not  participated in a previous contract subject to the equal opportunity clause prescribed by Executive Order 10925, or Executive Order 11114, or Executive Order 11246.

The Bidder (Proposer) has  has not  submitted all compliance reports in connection with any such contract due under the applicable filing requirements; and that representations indicating submission of required compliance reports signed by proposed subcontractors will be obtained prior to award of subcontracts.

If the Bidder (Proposer) has participated in a previous contract subject to the equal opportunity clause and has not submitted compliance reports due under applicable filing requirements, the Bidder (Proposer) shall submit a compliance report on Standard Form 100, "Employee Information Report EEO -1", prior to the award of CONTRACT.

11-8-10

Date

 PRESIDENT

Signature and Title

**CERTIFICATION TO BE SUBMITTED BY FEDERALLY ASSISTED CONSTRUCTION CONTRACTORS OF APPLICANTS AND THEIR SUBCONTRACTORS (APPLICABLE TO FEDERALLY ASSISTED CONSTRUCTION CONTRACTS AND RELATED SUBCONTRACTS EXCEEDING \$10,000 WHICH ARE NOT EXEMPT FROM THE EQUAL OPPORTUNITY CLAUSE).**

**CERTIFICATION OF NONSEGREGATED FACILITIES**

The Federally-assisted construction CONTRACTOR certifies that he does not maintain or provide for his employees any segregated facilities at any of his establishments, and that he does not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Federally-assisted construction CONTRACTOR certifies further that they will not maintain or provide for his employees any segregated facilities at any of his establishments, and that he will not permit his employees to perform their services at any location, under his control, where segregated facilities are maintained. The Federally-assisted construction CONTRACTOR agrees that a breach of this certification is a violation of the equal opportunity clause in this CONTRACT. As used in this certification, the term "segregated facilities" means any waiting room, work areas, rest rooms and washrooms, restaurants and other eating areas, time clocks, locker rooms, and other storage or dressing areas, parking lots, drinking fountains, recreation or entertainment areas, transportation, and housing facilities provided for employees which are segregated by explicit directive or are in fact segregated on the basis of race, color, religion, sex or national origin, because of habit, local custom, or any other reason. The Federally-assisted construction CONTRACTOR agrees that (except where he has obtained identical certifications from proposed subcontractors for specific time periods) he will obtain identical certifications from proposed subcontractors prior to the award of subcontracts exceeding \$10,000 which are not exempt from the provisions of the Equal Opportunity Clause, and that he will retain such certifications in his files.

11-8-10

Date



Signature and Title

PRESIDENT

33-0055480

IRS Employer Identification Number

**CERTIFICATION OF BIDDER REGARDING**

**AFFIRMATIVE ACTION PROGRAM**

The bidder hereby certifies that he is in compliance with the Civil Rights Act of 1964, Executive Order No. 11246, Employment Practices Act, and any other applicable Federal and State laws and regulations relating to equal opportunity employment.

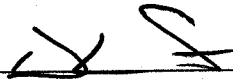
Bidder's Name: SOUTH WEST CONSTRUCTION CO. INC.

Address: 2909 RAINBOW VALLEY BLVD. FAULBROOK CA 92028

Name and Title of Signer: DAVID SIMON, PRESIDENT

11-8-10

Date



Signature

**NOTE:**

The CONTRACTOR to whom the CONTRACT is awarded shall submit a statement each month certifying that he is in conformance with the Affirmative Action Program.

DISADVANTAGED BUSINESS ENTERPRISE (DBE) UTILIZATION

The undersigned bidder/offeror has satisfied the requirements of the Bid SPECIFICATION in the following manner (please check the appropriate space):

The bidder/offeror is committed to a minimum of 12 % DBE utilization on this CONTRACT.

If unable to meet the DBE goal of 12 percent (12%), the bidder/offeror is committed to a minimum of \_\_\_\_\_ % DBE utilization on this CONTRACT and submits documentation demonstrating good faith efforts.

Name of bidder/offeror's firm: SOUTHWEST CONSTRUCTION CO. INC.

State Registration No.: 465118

By: [Signature] Title: PRESIDENT

LIST OF DBE SUBCONTRACTORS

CONTRACT AMOUNT

LIST OF DBE SUBCONTRACTORS	CONTRACT AMOUNT
1. <u>AVIATION STRIPING</u> Name	<u>951-303-9914</u> \$ <u>57,427.75</u> Phone
2. _____ Name	_____ \$ _____ Phone
3. _____ Name	_____ \$ _____ Phone
4. _____ Name	_____ \$ _____ Phone
5. _____ Name	_____ \$ _____ Phone
6. _____ Name	_____ \$ _____ Phone
7. _____ Name	_____ \$ _____ Phone
8. _____ Name	_____ \$ _____ Phone



## CERTIFICATION REGARDING FOREIGN TRADE RESTRICTIONS

The CONTRACTOR or subcontractor, by submission of an offer and/or execution of a contract, certifies that it:

- a. is not owned or controlled by one or more citizens or nationals of a foreign country included in the list of countries that discriminate against U.S. firms published by the Office of the United States Trade Representative (USTR);
- b. has not knowingly entered into any contract or subcontract for this PROJECT with a contractor that is a citizen or national of a foreign country on said list, or is owned or controlled directly or indirectly by one or more citizens or nationals of a foreign country on said list;
- c. has not procured any product nor subcontracted for the supply of any product for use on the PROJECT that is produced in a foreign country on said list.

Unless the restrictions of this clause are waived by the Secretary of Transportation in accordance with 49 CFR 30.17, no contract shall be awarded to a contractor or subcontractor who is unable to certify to the above. If the CONTRACTOR knowingly procures or subcontracts for the supply of any product or service of a foreign country on said list for use on the PROJECT, the Federal Aviation Administration may direct, through the SPONSOR, cancellation of the CONTRACT at no cost to the Government.

Further, the CONTRACTOR agrees that, if awarded a contract resulting from this solicitation, it will incorporate this provision for certification without modification in each contract and in all lower tier subcontracts. The CONTRACTOR may rely upon the certification of a prospective subcontractor unless it has knowledge the certification is erroneous.

The CONTRACTOR shall provide immediate written notice to the SPONSOR if the CONTRACTOR learns that its certification or that of a subcontractor was erroneous when submitted or has become erroneous by reason of changed circumstances. The subcontractor agrees to provide immediate written notice to the CONTRACTOR, if at any time it learns that its certification was erroneous by reason of changed circumstances.

This certification is a material representation of fact upon which reliance was placed when making the award. If it is later determined that the CONTRACTOR or subcontractor knowingly rendered an erroneous certification, the Federal Aviation Administration may direct, through the SPONSOR, cancellation of the CONTRACT or subcontract for default at no cost to the Government.

Nothing contained in the foregoing shall be construed to require establishment of a system of records in order to render, in good faith, the certification required by this provision. The knowledge and information of a contractor is not required to exceed that which is normally possessed by a prudent person in the ordinary course of business dealings.

This certification concerns a matter within the jurisdiction of an agency of the United States of America and the making of false, fictitious, or fraudulent certification may render the maker subject to prosecution under Title 18, United States Code, Section 1001.

11-8-10

Date

  
Signature

**BUY AMERICAN CERTIFICATE (Jan. 1991)**

By submitting a bid/proposal under this solicitation, except for those items listed by the offeror below or on a separate and clearly identified attachment to this bid/proposal, the offeror certifies that steel and each manufactured product, is produced in the United States (as defined in the clause - Buy American Steel and Manufactured Products or Buy American Steel and Manufactured Products For Construction Contracts) and that components of unknown origin are considered to have been produced or manufactured outside the United States.

A list of articles, materials, and supplies excepted from this provision is contained in Division II, Section 1, Paragraph 1-7.

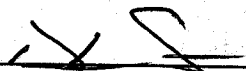
PRODUCT

COUNTRY OF ORIGIN

N/A

**SUSPENSION AND DEBARMENT REQUIREMENTS  
FOR ALL CONTRACTS OVER \$25,000  
49 CFR PART 29**

The bidder/offerer certifies, by submission of this proposal or acceptance of this CONTRACT, that neither it nor its principals is presently debarred, suspended, proposed for debarment, declared ineligible, or voluntarily excluded from participation in this transaction by any Federal department or agency. It further agrees by submitting this proposal that it will include this clause without modification in all lower tier transactions, solicitations, proposals, contracts, and subcontracts. Where the bidder/offerer/CONTRACTOR or any lower tier participant is unable to certify to this statement, it shall attach an explanation to this solicitation/ proposal.

  
Signature

SOUTHWEST CONSTRUCTION CO. INC.  
(Name of Bidder)

11-8-10  
Date

DAVID SIMON, PRESIDENT  
(Name & Title of Signing Official)

Business Address

2909 RAINBOW VALLEY BLVD  
FALLBROOK CA 92028

**AFFIDAVIT FOR INDIVIDUAL CONTRACTORS**

DAVID L. SIMON 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, 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 \_\_\_\_\_ day of \_\_\_\_\_, 2010, at \_\_\_\_\_, California.

Signature of affiant: N/A

NOTE: No notarization of signature required

**AFFIDAVIT FOR JOINT VENTURE OF COPARTNERSHIP CONTRACTOR**

N/A

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 \_\_\_\_\_, 2010, at \_\_\_\_\_, California.

Signature of affiant: \_\_\_\_\_

N/A

NOTE: Notarization of signature required

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

State of California }  
 County of Riverside }  
 On 11/8/10 before me, Rachel Marano Notary Public  
Date Here Insert Name and Title of the Officer  
 personally appeared David L Suman  
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.

Signature: Rachel Marano  
Signature of Notary Public

Place Notary Seal and/or Stamp Above

**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: Affidavit for Corporate Contractor  
 Document Date: 11/8/10 Number of Pages: 1

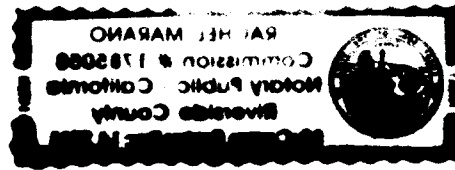
Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: \_\_\_\_\_ Signer's Name: \_\_\_\_\_

- |   |  |   |  |
|---|--|---|--|
| <input type="checkbox"/> Corporate Officer — Title(s): _____<br><input type="checkbox"/> Individual<br><input type="checkbox"/> Partner — <input type="checkbox"/> Limited <input type="checkbox"/> General<br><input type="checkbox"/> Attorney in Fact<br><input type="checkbox"/> Trustee<br><input type="checkbox"/> Guardian or Conservator<br><input type="checkbox"/> Other: _____ | <p style="text-align: center; margin: 0;"><b>RIGHT THUMBPRINT OF SIGNER</b></p> <p style="text-align: center; margin: 0;">Top of thumb here</p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div> | <input type="checkbox"/> Corporate Officer — Title(s): _____<br><input type="checkbox"/> Individual<br><input type="checkbox"/> Partner — <input type="checkbox"/> Limited <input type="checkbox"/> General<br><input type="checkbox"/> Attorney in Fact<br><input type="checkbox"/> Trustee<br><input type="checkbox"/> Guardian or Conservator<br><input type="checkbox"/> Other: _____ | <p style="text-align: center; margin: 0;"><b>RIGHT THUMBPRINT OF SIGNER</b></p> <p style="text-align: center; margin: 0;">Top of thumb here</p> <div style="border: 1px solid black; height: 100px; width: 100%;"></div> |
|---|--|---|--|

Signer Is Representing: \_\_\_\_\_ Signer Is Representing: \_\_\_\_\_



**AFFIDAVIT FOR CORPORATE CONTRACTOR**

DAVID L. SIMON

declares as follows:

That he or she is PRESIDENT  
of SOUTHWEST CONSTRUCTION CO. INC.

a corporation 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.

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

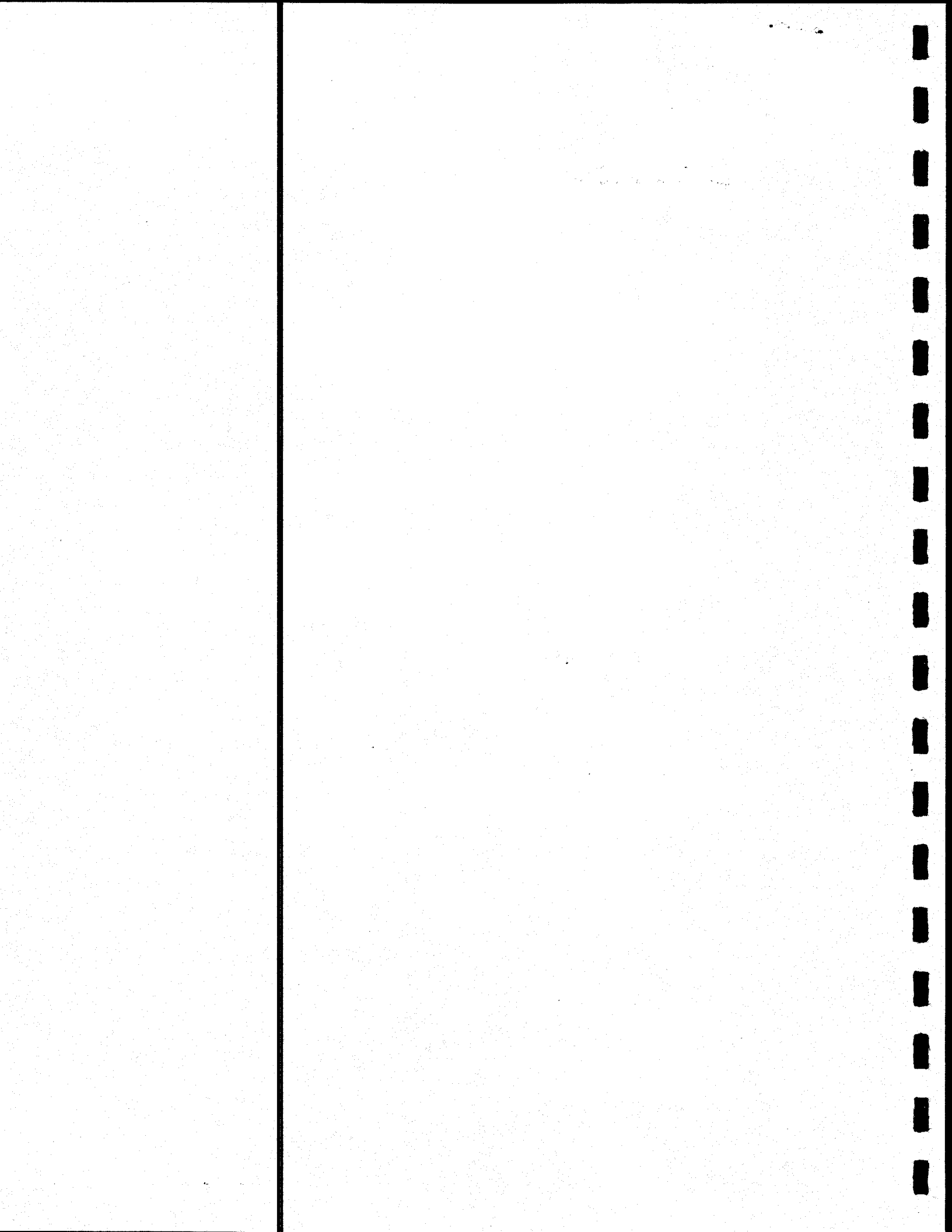
Dated this 8th day of Nov, 2010, at  
IRVINE, California.

Signature of affiant: \_\_\_\_\_



NOTE: Notarization of signature required





**BID BOND**

Southwest Construction

Recitals: 1. / Co., Inc. "CONTRACTOR", has submitted his CONTRACTOR's Proposal to County of Riverside, "County", for the construction of public work for Hemet-Ryan Airport Apron Rehabilitation Project in accordance with a Notice Inviting Bids of COUNTY dated 11/9/10

2. Safeco Insurance Company of America

a Washington corporation, hereafter called "Surety", is the surety of this Bond.

Agreement: We, CONTRACTOR as principal and Surety as surety, jointly and severally agree and state as follows:

1. The amount of the obligation of this bond is ten percent (10%) of the amount of the CONTRACTOR's Proposal, including all bid alternates, and inures to the benefit of COUNTY.
2. This Bond is exonerated by (1) COUNTY rejecting said Proposal or, in the alternate, (2) if said Proposal is accepted, CONTRACTOR executes the Agreement and furnishes the Bonds as agreed to in its Proposal, otherwise it remains in full force and effect for the recovery of loss, damage and expense of COUNTY resulting from failure of CONTRACTOR to act as agreed to in its Proposal. Some types of possible loss, damage and expense are specified in the CONTRACTOR's Proposal.
3. Surety, for value received, stipulates and agrees that its obligations hereunder shall in no way be impaired or affected by any extension of time within which COUNTY may accept the Proposal and waives notice of any such extension.
4. This Bond is binding on our heirs, executors, administrators, successors, and assigns.

Dated: November 2, 2010 Southwest Construction Co., Inc.  
Safeco Insurance Company of America  
 By: [Signature] By: [Signature]  
Margareta T. Thorsen Title: PRESIDENT  
 Title: Attorney in Fact "Surety" Title: Contractors

STATE OF CALIFORNIA )  
 ) ss.  
 COUNTY OF \_\_\_\_\_ )

On \_\_\_\_\_ before me personally appeared \_\_\_\_\_ known to me to be the person whose name is subscribed to the within instrument as Attorney in Fact.

\_\_\_\_\_  
Notary Public (Seal)

(NOTE: Affix corporate seals.)

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

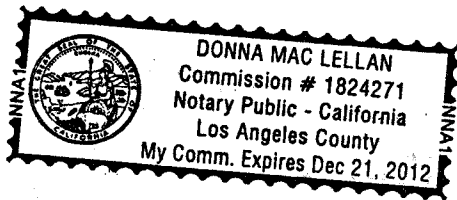
State of California

County of Los Angeles



On 11/2/10 before me, Donna Mac Lellan, Notary Public  
Date Here Insert Name and Title of the Officer

personally appeared Margareta T. Thorsen  
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.

Signature Donna Mac Lellan  
Signature of Notary Public

Place Notary Seal Above

**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: \_\_\_\_\_

Document Date: \_\_\_\_\_ Number of Pages: \_\_\_\_\_

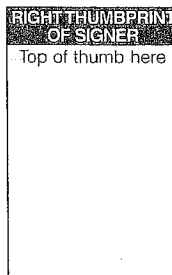
Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

Signer's Name: \_\_\_\_\_

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

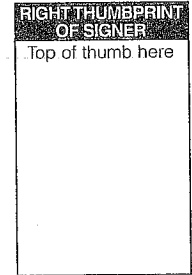
Signer Is Representing: \_\_\_\_\_



Signer's Name: \_\_\_\_\_

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

Signer Is Representing: \_\_\_\_\_





POWER OF ATTORNEY

Safeco Insurance Company of America
General Insurance Company of America
1001 4th Avenue
Suite 1700
Seattle, WA 98154

No. 9982

KNOW ALL BY THESE PRESENTS:

That SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA, each a Washington corporation, does each hereby appoint

MARGARETA T. THORSEN; Pasadena, California

its true and lawful attorney(s)-in-fact, with full authority to execute on its behalf fidelity and surety bonds or undertakings and other documents of a similar character issued in the course of its business, and to bind the respective company thereby.

IN WITNESS WHEREOF, SAFECO INSURANCE COMPANY OF AMERICA and GENERAL INSURANCE COMPANY OF AMERICA have each executed and attested these presents

this 21st day of March, 2009

Dexter R. Legg

TAMikolajewski

Dexter R. Legg, Secretary

Timothy A. Mikolajewski, Vice President

CERTIFICATE

Extract from the By-Laws of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA:

"Article V, Section 13. - FIDELITY AND SURETY BONDS ... the President, any Vice President, the Secretary, and any Assistant Vice President appointed for that purpose by the officer in charge of surety operations, shall each have authority to appoint individuals as attorneys-in-fact or under other appropriate titles with authority to execute on behalf of the company fidelity and surety bonds and other documents of similar character issued by the company in the course of its business...

Extract from a Resolution of the Board of Directors of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA adopted July 28, 1970.

"On any certificate executed by the Secretary or an assistant secretary of the Company setting out, (i) The provisions of Article V, Section 13 of the By-Laws, and (ii) A copy of the power-of-attorney appointment, executed pursuant thereto, and (iii) Certifying that said power-of-attorney appointment is in full force and effect, the signature of the certifying officer may be by facsimile, and the seal of the Company may be a facsimile thereof."

I, Dexter R. Legg, Secretary of SAFECO INSURANCE COMPANY OF AMERICA and of GENERAL INSURANCE COMPANY OF AMERICA, do hereby certify that the foregoing extracts of the By-Laws and of a Resolution of the Board of Directors of these corporations, and of a Power of Attorney issued pursuant thereto, are true and correct, and that both the By-Laws, the Resolution and the Power of Attorney are still in full force and effect.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed the facsimile seal of said corporation

this 2nd day of November, 2010



Dexter R. Legg

Dexter R. Legg, Secretary

**CALIFORNIA ALL-PURPOSE ACKNOWLEDGMENT**

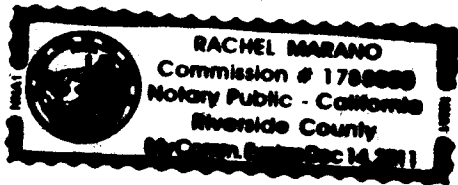
State of California

County of Riverside }

On 11/8/10 before me, Rachel Marano Notary Public  
Date Here Insert Name and Title of the Officer

personally appeared David L. Simon  
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.

Signature: Rachel Marano  
Signature of Notary Public

Place Notary Seal and/or Stamp Above

**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**

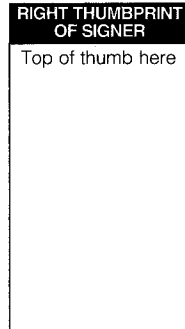
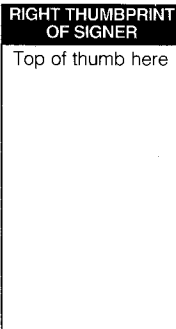
Title or Type of Document: Bid Bond Safeco Insurance Company of America  
Document Date: 11/9/10 Number of Pages: 1

Signer(s) Other Than Named Above: \_\_\_\_\_

**Capacity(ies) Claimed by Signer(s)**

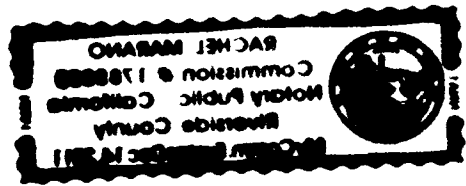
Signer's Name: \_\_\_\_\_ Signer's Name: \_\_\_\_\_

- |  |  |
|--|--|
| <input type="checkbox"/> Corporate Officer — Title(s): _____   | <input type="checkbox"/> Corporate Officer — Title(s): _____   |
| <input type="checkbox"/> Individual  | <input type="checkbox"/> Individual  |
| <input type="checkbox"/> Partner — <input type="checkbox"/> Limited <input type="checkbox"/> General | <input type="checkbox"/> Partner — <input type="checkbox"/> Limited <input type="checkbox"/> General |
| <input type="checkbox"/> Attorney in Fact  | <input type="checkbox"/> Attorney in Fact  |
| <input type="checkbox"/> Trustee   | <input type="checkbox"/> Trustee   |
| <input type="checkbox"/> Guardian or Conservator   | <input type="checkbox"/> Guardian or Conservator   |
| <input type="checkbox"/> Other: _____  | <input type="checkbox"/> Other: _____  |

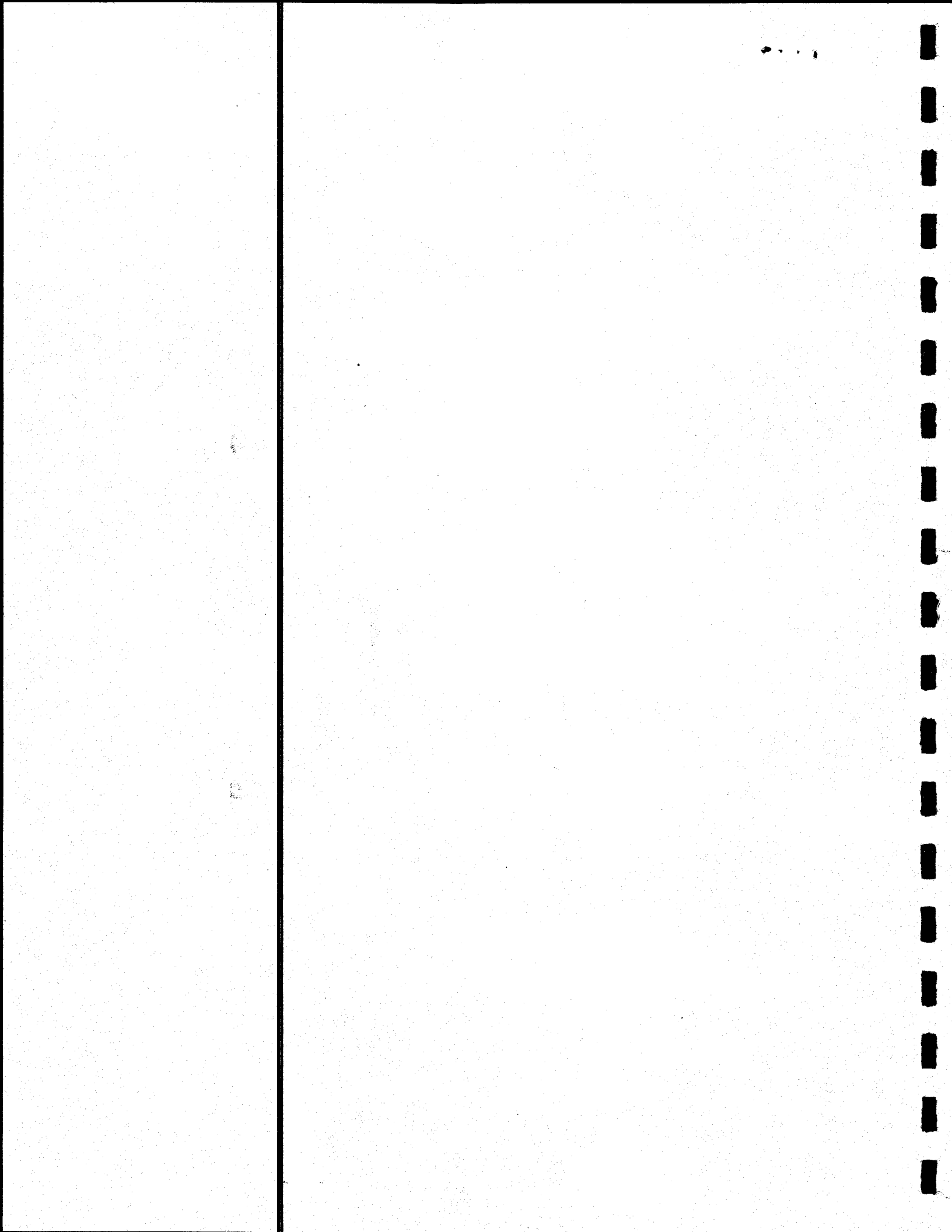


Signer Is Representing: \_\_\_\_\_

Signer Is Representing: \_\_\_\_\_

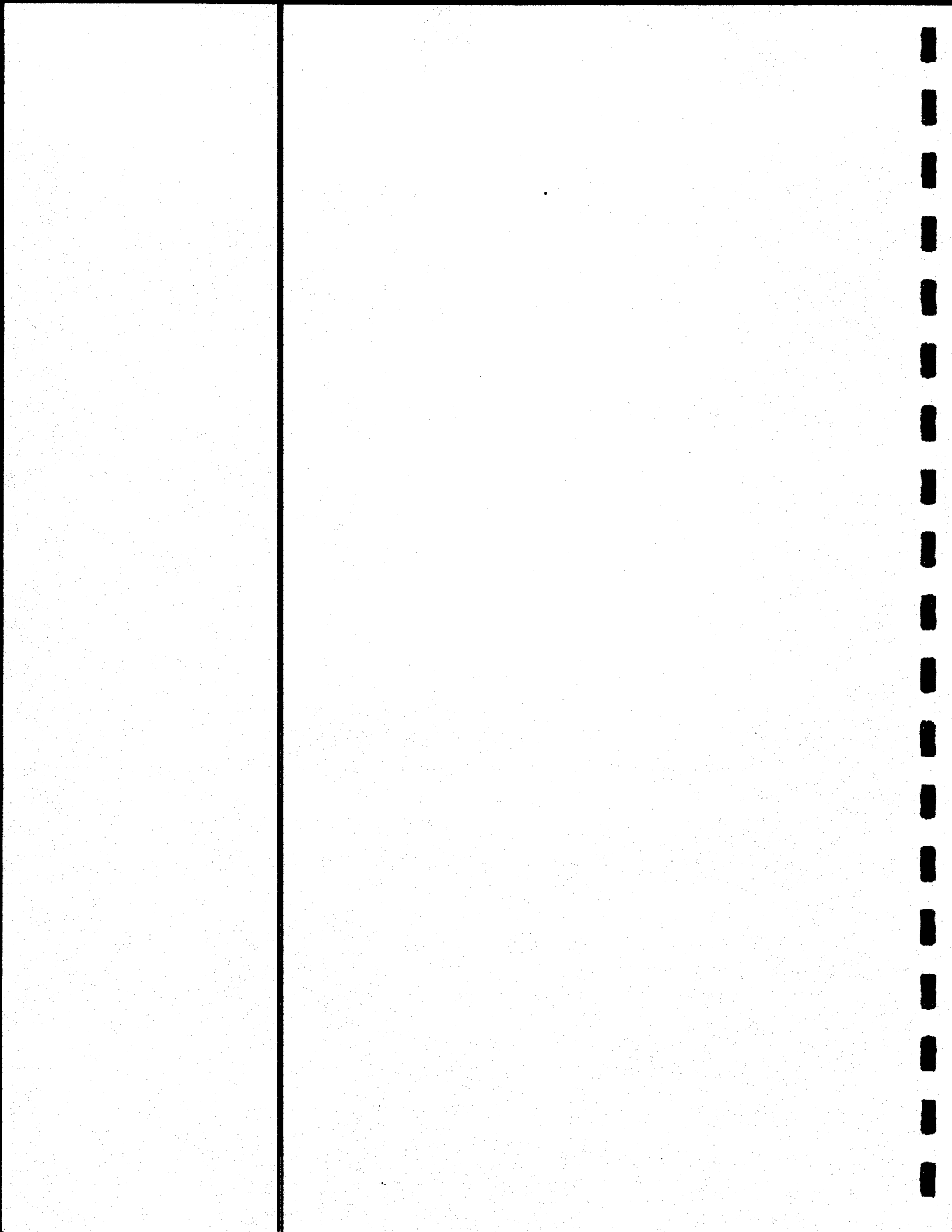








# SAMPLE FORMS



**CONTRACT AGREEMENT**  
**HEMET-RYAN AIRPORT "APRON REHABILITATION PROJECT"**  
**COUNTY OF RIVERSIDE**  
**CONSTRUCTION OF AIRPORT IMPROVEMENTS**

THIS AGREEMENT, made and entered into this \_\_\_\_\_ day of \_\_\_\_\_, 2010, by and between the County of Riverside, organized and existing under and by virtue of the laws of the State of California, hereinafter designated the OWNER, and \_\_\_\_\_ of the City of \_\_\_\_\_, County of \_\_\_\_\_, State of California, hereinafter designated the CONTRACTOR.

**WITNESSETH:**

That the said CONTRACTOR has covenanted and agreed, for and in consideration of the payments made as provided for in the Proposal, PROJECT SPECIFICATIONS, and Contract Documents, to the CONTRACTOR by the said OWNER, and under the penalty expressed in the bond hereto attached, at his proper cost and expense, to do all the work and furnish all materials, tools, labor, and all appliance and appurtenances called for by the Agreement, free from all claims, liens, and charges whatsoever, in the manner and under the conditions hereinafter specified, that are necessary for the construction of: "Apron Rehabilitation Project."

The work done and materials and equipment furnished shall be strictly pursuant to and in conformity with the PLANS, PROJECT SPECIFICATIONS, and Contract Documents. The PROJECT SPECIFICATIONS and Contract Documents and DRAWINGS furnished by the CONTRACTOR with his proposal and the additional drawings or prints and other information to be furnished by the Contractor in accordance with the PROJECT SPECIFICATIONS and Contract Documents are made a part of this Agreement when and as approved by the County of Riverside, are intended to be complementary, and all PROJECT SPECIFICATIONS and Contract Documents, PLANS, DRAWINGS, or prints furnished by the Contractor and approved by the County of Riverside shall be complementary therewith. Any work appearing in or upon the one and not mentioned in the others shall be executed according to the true intent and meaning of the said PLANS, PROJECT SPECIFICATIONS, and Contract Documents, DRAWINGS, or prints the same as though the said work were contained and described in all.

The Notice Inviting Bids, Instruction to Bidders, FAA-Required Provisions, Riverside County Provisions, General, and Special Provisions, Proposal, Bid Bond, Payment Bond, Performance Bond, Certificate of Insurance, CONTRACTOR's Affidavit, Technical Provisions, Appendix, Plans, Addenda Nos. 0, General Wage Decisions, any change orders issued, and any additional or supplemental specifications, notices, instructions, and drawings issued in accordance with the provisions of the Contract Documents are hereby understood to be a part of this CONTRACT. The Bid Bond is exonerated upon execution of this Agreement, the Payment Bond, Faithful Performance Bond, and the submission of proof of insurance.

It is further covenanted and agreed that the work shall be executed under the direction and supervision of the County of Riverside, California, or properly authorized agents, on whose inspection all work shall be accepted or rejected.

The COUNTY shall have full power to reject or condemn all materials furnished or work performed under this CONTRACT which do not conform to the terms and conditions herein expressed.

To prevent all disputes and litigation, it is further agreed by and between the County of Riverside, California and said CONTRACTOR, that the Aviation Division of the County of Riverside, Economic Development Agency, shall determine all questions in relation to the work and the construction thereof, and it shall in all cases decide all questions may arise relative to the execution of the work under this CONTRACT on the part of the said CONTRACTOR, and its estimates and decisions, in case any questions may arise, shall be a condition precedent to the right of said CONTRACTOR to receive any money or compensation for anything done or furnished under this CONTRACT.

Any violation or breach of the terms of this CONTRACT on the part of CONTRACTOR/ Subcontractor may result in the suspension or termination of this CONTRACT, or such other action which may be necessary to enforce the rights of the parties of this Agreement.

IN WITNESS WHEREOF five (5) identical counterparts of this CONTRACT, each of which shall for all purposes be deemed an original thereof, have been duly executed by the parties hereinabove named, on the date and year first herein written.

SEAL (ATTEST)

COUNTY OF RIVERSIDE, CALIFORNIA  
(OWNER)

\_\_\_\_\_

\_\_\_\_\_

Chairman, Board of Supervisors

APPROVED (AS TO FORM):

County Counsel

(CONTRACTOR)

WITNESSES:

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

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

\_\_\_\_\_

\_\_\_\_\_

(CORPORATE SEAL)

Address: \_\_\_\_\_

Phone: \_\_\_\_\_

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

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

**PERFORMANCE BOND**

**RECITALS:**

1. \_\_\_\_\_, (CONTRACTOR) has entered into an Agreement dated \_\_\_\_\_ with the COUNTY OF RIVERSIDE (COUNTY) for construction of public work known as Airport Improvements at Hemet-Ryan Airport for the Apron Rehabilitation Project.
2. \_\_\_\_\_, a \_\_\_\_\_, corporation (Surety), is the Surety under this Bond.

**AGREEMENT:**

We, CONTRACTOR, as Principal, and Surety, jointly and severally agree, state, and are bound unto County

1. The amount of the obligation of this Bond is one hundred percent (100%) of the estimated CONTRACT PRICE for the PROJECT of \$ \_\_\_\_\_ and inures to the benefit of COUNTY.
2. This Bond is exonerated by CONTRACTOR doing all things to be kept and performed by it in strict conformance with the Contract Documents for the PROJECT; otherwise it remains in full force and effect for the recovery of loss, damage, and expense of COUNTY resulting from failure of CONTRACTOR to so act. All of said Contract Documents are incorporated herein.
3. This obligation is binding on our successors and assigns.
4. For value received, Surety stipulates and agrees that no change, time extension, prepayment to CONTRACTOR, alteration, or addition to the terms and requirements of the Contract Documents or the work to be performed thereunder shall affect its obligations hereunder and waives notice as to such matters, except the total CONTRACT PRICE cannot be increased by more than twenty-five percent (25%) without approval of Surety.

THIS BOND is executed as of \_\_\_\_\_.

By: \_\_\_\_\_  
(Authorized Signature)

Type Name \_\_\_\_\_  
Its Attorney in Fact

\_\_\_\_\_  
Name of Surety

By:

Title: \_\_\_\_\_  
"Contractor"

NOTE: This Bond must be executed by both parties with corporate seal affixed. All signatures must be acknowledged.

**PAYMENT BOND**

(Public Works Civil Code 3247 et seq.)

The makers of this Bond are \_\_\_\_\_, as Principal and Original CONTRACTOR, and \_\_\_\_\_, a corporation, authorized to issue Surety Bonds in California, as Surety, and this Bond is issued in conjunction with that certain public works contract dated \_\_\_\_\_, between Principal and County of Riverside, a public entity, as OWNER, for \$ \_\_\_\_\_, the total amount Payable. THE AMOUNT OF THIS BOND IS 100 PERCENT (100%) OF SAID SUM. Said CONTRACT is for public work generally consisting of airport apron rehabilitation at Hemet-Ryan Airport.

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

Dated: \_\_\_\_\_

By: \_\_\_\_\_  
Original Contractor

By: \_\_\_\_\_  
Its Attorney in Fact

Title: \_\_\_\_\_  
(If corporation, affix seal)

STATE OF CALIFORNIA )  
 ) ss.  
COUNTY OF \_\_\_\_\_ )  
ACKNOWLEDGEMENT

SURETY'S

On \_\_\_\_\_, before me personally appeared person whose name is subscribed the name of said corporation thereto, and acknowledged that he subscribed the name of said corporation thereto, and his name as its attorney in fact.

\_\_\_\_\_  
Notary Public

(SEAL)

NOTE: All signatures must be notarized.