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**\*\* WARNING \*\* WARNING \*\* WARNING \*\* WARNING \*\***  
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November 16, 2007

08-SBd-30-R31.2  
08-0E5804  
Addendum No. 3

Dear Contractor:

This addendum is being issued to the contract for construction on State highway in SAN BERNARDINO COUNTY IN REDLANDS AT SANTA ANA RIVER BRIDGE.

Submit bids for this work with the understanding and full consideration of this addendum. The revisions declared in this addendum are an essential part of the contract.

Bids for this work will be opened on December 6, 2007.

This addendum is being issued to revise the Project Plans, the Notice to Contractors and Special Provisions, and the Proposal and Contract.

Project Plan Sheets 1, 7, 8, and 9 are revised. Half-sized copies of the revised sheets are attached for substitution for the like-numbered sheets.

Project Plan Sheet 9A is added. A half-sized copy of the added sheet is attached for addition to the project plans.

In the Special Provisions, Section 5-1.15, "GENERAL MIGRATORY BIRD PROTECTION," subsection "BIOLOGIST," the following paragraph is added after the first paragraph:

"Attention is directed to Section 5-1.01 of the Standard Specifications. Nothing in this specification shall alter the Engineer's authority. The biologist shall have authority to direct movements to avoid harm to nests or burrows."

In the Special Provisions, Section 5-1.15, "GENERAL MIGRATORY BIRD PROTECTION," the following subsections are added after the subsection "PRE-CONSTRUCTION SURVEY":

**"MONITORING**

The biologist will inspect the bird habitat adjacent to the construction areas a minimum of once every 5 days for nests during the nesting season.

**EXCLUSION DEVICES**

When ordered by the Engineer, the Contractor shall use exclusion devices or remove and dispose of partially constructed and unoccupied nests of migratory birds on a regular basis to prevent their occupation. Nesting prevention measures performed by the Contractor will be paid for as extra work as provided in Section 4-1.03D, "Extra Work," of the Standard Specifications.

Nest removed activities shall not deposit in, permit to pass into, or place nest materials where they can pass into the waters of this state.

The Contractor shall not enter the streambed or stream banks without the written authorization of the Engineer.

Exclusion devices will not be installed except in the presence of the migratory bird biologist."

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In the Special Provisions, Section 5-1.17, "ENVIRONMENTAL CONTROLS FOR WILDLIFE," is added as attached.

In the Special Provisions, Section 10-1.01, "ORDER OF WORK," the following paragraph is added after the first paragraph:

"Attention is directed to the Federal Migratory Bird Treaty Act (15 USC 703-711) 50 CFR Part 21 and 50 CFR Part 10, and the California Department of Fish and Game Code Sections 3503, 3513, and 3800, that protect migratory birds, their occupied nests, and their eggs from disturbance or destruction."

In the Special Provisions, the following Section 10-1.185, "STRUCTURE APPROACH SLABS (TYPE R)," is added after Section 10-1.18, "CONCRETE STRUCTURES," as attached.

In the Proposal and Contract, the Engineer's Estimate Items 15, 16, and 18 are revised, Items 28, 29 and 30 are added and Item 27 is deleted as attached.

To Proposal and Contract book holders:

Replace the entire Engineer's Estimate in the Proposal with the attached revised Engineer's Estimate. The revised Engineer's Estimate is to be used in the bid.

Inquiries or questions in regard to this addendum must be communicated as a bidder inquiry and must be made as noted in the NOTICE TO CONTRACTORS section of the Notice to Contractors and Special Provisions.

Indicate receipt of this addendum by filling in the number of this addendum in the space provided on the signature page of the proposal.

Submit bids in the Proposal and Contract book you now possess. Holders who have already mailed their book will be contacted to arrange for the return of their book.

Inform subcontractors and suppliers as necessary.

This office is sending this addendum by GSO overnight mail to Proposal and Contract book holders to ensure that each receives it. A copy of this addendum is available for the contractor's use on the Internet Site:

**[http://www.dot.ca.gov/hq/esc/oe/weekly\\_ads/addendum\\_page.html](http://www.dot.ca.gov/hq/esc/oe/weekly_ads/addendum_page.html)**

If you are not a Proposal and Contract book holder, but request a book to bid on this project, you must comply with the requirements of this letter before submitting your bid.

Sincerely,

ORIGINAL SIGNED BY

REBECCA D. HARNAGEL, Chief  
Office of Plans, Specifications & Estimates  
Division of Engineering Services - Office Engineer

Attachments

### **5-1.17 ENVIRONMENTAL CONTROLS FOR WILDLIFE**

Environmental Controls for Wildlife shall consist of furnishing, installing, maintaining, and removing temporary lighting control and temporary noise control and conforming to these special provisions for the protection of wildlife.

A biologist monitoring the project shall have the authority to adjust the trim, direction, and spill of light emitted by the Contractor's operations.

#### **TEMPORARY LIGHTING CONTROL**

Temporary lighting control shall include, but is not be limited to, adjusting portable and fixed construction artificial lighting and temporary light controls. Night work shall be conducted only if illumination generated by temporary artificial lighting is prevented from spilling or reflecting into adjacent habitat outside of the right of way.

Attention is directed to Section 7.1.01, "Laws To Be Observed," of the Standard Specifications. All portable and stationary lighting equipment furnished by the Contractor shall comply with Air Quality Management District regulations relating to the registration and operation of mobile power equipment.

When using portable lighting, the Contractor shall direct light away from the direction of traffic and away from adjacent habitat. Portable lighting equipment shall be equipped with barn doors or similar light shields. Light shields shall be adjusted, where necessary, to prevent light spillover into habitat areas.

#### **TEMPORARY LIGHT BARRIER**

When ordered by the Engineer the Contractor shall install temporary light barrier. Temporary light barrier installed by the Contractor will be paid for as extra work as provided in Section 4-1.03D, "Extra Work," of the Standard Specifications.

The Contractor shall submit working drawings for Temporary Light barrier in accordance with Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications. Temporary light barrier shall:

- a) Consist of a temporary fence with black silt fence fabric affixed
- b) Be furnished, constructed, maintained, and later removed as shown on the plans, as specified in these special provisions and as directed by the Engineer.
- c) Be a minimum of 6 feet high.
- d) Be constructed to withstand wind speeds of up to 70 miles per hour and shall be tethered to prevent loosened fence from moving into the traveled way.

Used materials may be installed provided the used materials are good, sound and are suitable for the purpose intended, as determined by the Engineer.

Materials may be commercial quality provided the dimensions and sizes of the materials are equal to, or greater than, the dimensions and sizes shown on the plans, working drawings, or specified herein.

When no longer required for the work, as determined by the Engineer, temporary light barrier shall be removed. Removed facilities shall become the property of the Contractor and shall be removed from the site of the work, except as otherwise provided in this section.

#### **TEMPORARY SOUND CONTROL**

Nothing in this specification shall relieve the Contractor of conforming to "Sound Control Requirements" contained in these special provisions and the Standard Specifications.

The Contractor shall limit the nonessential idling of all portable equipment used in construction.

All gasoline, diesel, or natural gas powered portable equipment shall be equipped with a muffler.

All portable changeable message signs used by the Contractor shall be solar powered.

#### **TEMPORARY NOISE BARRIER**

When ordered by the Engineer the Contractor shall install temporary noise barrier. Temporary noise barrier installed by the Contractor will be paid for as extra work as provided in Section 4-1.03D, "Extra Work," of the Standard Specifications.

The Contractor shall submit working drawings for temporary noise barrier in accordance with Section 5-1.02, "Plans and Working Drawings," of the Standard Specifications. Temporary noise barrier shall:

- a) Consist of a temporary fence with acoustical blanket attached.
- b) Be furnished, constructed, maintained, and later removed as shown on the plans, as specified in these special provisions and as directed by the Engineer.

- c) Be a minimum of 6 feet high.
- d) Be constructed to withstand wind speeds of up to 70 miles per hour and shall be tethered to prevent loosened fence from moving into the traveled way.

Used materials may be installed provided the used materials are good, sound and are suitable for the purpose intended, as determined by the Engineer.

Materials may be commercial quality provided the dimensions and sizes of the materials are equal to, or greater than, the dimensions and sizes shown on the plans, working drawings, or specified herein.

When no longer required for the work, as determined by the Engineer, temporary noise barrier shall be removed. Removed facilities shall become the property of the Contractor and shall be removed from the site of the work, except as otherwise provided in this section.

### **TEMPORARY FENCE**

Except as otherwise specified in this section, temporary fence for temporary light barrier and temporary noise barrier shall conform to the plan details and the specifications for permanent fence of similar character as provided in Section 80, "Fences," of the Standard Specifications.

- a) Posts shall be either metal or wood at the Contractor's option.
- b) Galvanizing and painting of steel items will not be required.
- c) Treating wood with a wood preservative will not be required.
- d) Temporary fence that is damaged during the progress of the work shall be repaired or replaced by the Contractor at the Contractor's expense.

Holes caused by the removal of temporary light barrier and temporary noise barrier shall be backfilled in conformance with the provisions in the second paragraph of Section 15-1.02, "Preservation of Property," of the Standard Specifications.

### **SILT FENCE FABRIC**

Except as otherwise specified in this section, silt fence fabric for temporary light barrier shall conform to the specifications for silt fence of similar character as provided in these special provisions and the Standard Specifications. The Contractor may use any width of silt fence fabric provided that silt fence fabric is overlapped a minimum of 6" at both ends and along the longitudinal axis.

Silt fence fabric shall be black.

Silt fence fabric shall be attached to temporary fence with 1/8" nylon or polyethylene cord at a maximum spacing of 12".

### **ACOUSTICAL BLANKET**

Acoustical blanket for temporary noise barrier shall:

- a) Have a Sound Transmission Class (STC) rating of 28 or higher
- b) Have a Noise Reduction Coefficient (NRC) of 0.90 or higher
- c) Attach with grommets at a maximum of 24" on center
- d) Shall have flame resistance rating consistent with Fire Marshall Requirement F419.01
- e) Have anti-fungal and anti-bacterial properties
- f) Be water resistant
- g) Have a working temperature range of a minimum -40 to 106 degrees Fahrenheit

The acoustical blanket shall be installed on the upwind side of the temporary fence.

The Contractor may use any width of acoustical blanket provided that the acoustical blanket is overlapped a minimum of 6" at both ends and along the longitudinal axis.

Acoustical blanket shall be attached to temporary fence as recommended by the manufacturer.

**TIME EXTENSION**

If suspension of a work activity is ordered by the Engineer due to installation of temporary light barrier or temporary noise barrier directed by the Engineer, and if, in the opinion of the Engineer, the Contractor's current controlling operation is delayed or interfered with by reason of the suspension, the delay will be considered a right of way delay as specified in Section 8-1.09, "Right of Way Delays," of the Standard Specifications.

**PAYMENT**

Full compensation for conforming to the provisions of this section, not otherwise provided for, shall be considered as included in the contract prices paid for the various contract items of work involved and no additional compensation will be allowed therefore.

### **10-1.185 STRUCTURE APPROACH SLABS (TYPE R)**

Structure approach slabs (Type R) consist of removing portions of existing structures, existing pavement and base including reinforced concrete approach slabs, portland cement concrete pavement, subsealing material, and cement treated base, and constructing new reinforced concrete approach slabs at structure approaches as shown on the plans and in conformance with these special provisions.

#### **GENERAL**

The thickness shown on the plans for structure approach slabs is the minimum thickness. The thickness will vary depending on the thickness of the pavement and base materials removed.

Where pavement subsealing has been performed under existing approach slabs, the full depth of subsealing material shall be removed. Where removal of cement treated base is required to construct the approach slab, the full depth of the cement treated base shall be removed.

At the option of the Contractor, the voids between the new structure approach slab and the base material remaining in place that are caused by removal of subsealing material or cement treated base shall be filled with either aggregate base (approach slab) or structure approach slab concrete. If the Contractor chooses to fill these voids with structure approach slab concrete, they shall be filled, at the Contractor's expense, at the time and in the same operation that the new concrete is placed.

The Contractor shall establish a grade line for new approach slabs that will provide a smooth profile grade. The profile grade will be subject to approval by the Engineer.

The Contractor shall schedule his work so that the pavement and base materials removed during a work period shall be replaced, in that same work period, with approach slab concrete that shall be cured for at least 4 hours prior to the time the lane is to be opened to public traffic as designated in "Maintaining Traffic" of these special provisions. In the event the existing pavement and base materials are removed and the Contractor is unable to construct, finish, and cure the new approach slab by the time the lane is to be opened to public traffic, the excavation shall be filled with a temporary roadway structural section as specified in this section, "Structure Approach Slabs (Type R)."

At locations where the removal of existing materials and approach slab construction is not required to be completed within the same work period, the requirements for "Temporary Roadway Structural Section" shall not apply. The Contractor shall have the option of:

- A. Curing the approach slab concrete for not less than 5 days prior to opening to public traffic, or
- B. Constructing the approach slab using rapid strength concrete (RSC) for approach slabs, and curing the approach slab concrete at least 4 hours prior to opening to public traffic.

#### **TEMPORARY ROADWAY STRUCTURAL SECTION**

A standby quantity of asphalt concrete and aggregate base, equal to the quantity of pavement removed during the work shift, shall be provided at the job site for construction of a temporary roadway structural section where existing approaches to structures are being replaced. The temporary structural section shall be maintained and later removed as a first order of work when the Contractor is able to construct and cure the approach slab within the prescribed time limit. The temporary structural section shall consist of 0.3-foot-thick layer of asphalt concrete over aggregate base.

The aggregate base for the temporary structural section shall conform to the requirements specified under "Aggregate Base (Approach Slab)" of these special provisions.

The asphalt concrete for the temporary structural section shall be produced from commercial quality aggregates and asphalt binder. The grading of the aggregate shall conform to the 3/4-inch maximum medium grading in Section 39-2.02, "Aggregate," of the Standard Specifications, and the asphalt binder shall conform to the requirements of liquid asphalt SC-800 in Section 93, "Liquid Asphalts," of the Standard Specifications. The amount of asphalt binder to be mixed with the aggregate shall be approximately 0.3 percent less than the optimum bitumen content as determined by California Test 367.

Aggregate base and asphalt concrete for the temporary structural section shall be spread and compacted by methods that will produce a well-compacted, uniform base, free from pockets of coarse or fine material and a surfacing of uniform smoothness, texture, and density. The aggregate base and the asphalt concrete may each be spread and compacted in one layer. The finished surface of the asphalt concrete shall not vary more than 0.05 foot from the lower edge of a 12-foot straightedge placed parallel with the centerline and shall match the elevation of the existing pavement and structure along the joints between the existing pavement and structure and the temporary surfacing.

The material from the removed temporary structural section shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications, except that removed aggregate base may be stockpiled at the job site and reused for construction of another temporary structural section. When no longer required, standby material or stockpiled material for construction of temporary structural sections shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

#### **REMOVING PORTIONS OF EXISTING STRUCTURES**

Attention is directed to "Existing Highway Facilities" of these special provisions.

#### **REMOVING EXISTING PAVEMENT AND BASE MATERIALS**

The outline of portland cement concrete to be removed shall be sawed full depth with a power-driven concrete saw.

The outlines of excavations in asphalt concrete shall be cut on a neat line to a minimum depth of 0.25 foot with a power-driven concrete saw or wheel-type rock cutting excavator before any asphalt concrete material is removed. These excavations shall be permanently or temporarily backfilled to conform to the grade of the adjacent pavement prior to opening the lane to public traffic. Surplus excavated material may be used as temporary backfill material.

Regardless of the type of equipment used to remove concrete within the sawed outline, the surface of the concrete to be removed shall not be impacted within 1.5 feet of the pavement to remain in place. Removing existing pavement and base materials shall be performed without damage to the adjacent structure or pavement that is to remain in place. Damage to the structure or to the pavement that is to remain in place shall be repaired in conformance with the provisions in Section 7-1.11, "Preservation of Property," of the Standard Specifications.

Materials removed shall be disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

The base material remaining in place, after removing the existing pavement and base materials to the required depth, shall be graded uniformly, watered, and compacted. The finished surface of the base material at any point shall not extend above the grade approved by the Engineer.

Areas of the base material that are low as a result of over excavation shall be filled, at the Contractor's expense, with structure approach slab concrete at the time and in the same operation that the new concrete is placed.

#### **AGGREGATE BASE (APPROACH SLAB)**

The aggregate base (approach slab) for filling voids below the reinforced structure approach slab concrete shall be produced from commercial quality aggregates consisting of broken stone, crushed gravel or natural rough-surfaced gravel, and sand, or any combination thereof. The grading of the aggregate base shall conform to the 3/4-inch maximum grading specified in Section 26-1.02A, "Class 2 Aggregate Base," of the Standard Specifications.

Aggregate base (approach slab) for filling voids below the reinforced structure approach slab concrete shall be spread and compacted by methods that will produce a well-compacted, uniform base, free from pockets of coarse or fine material. The aggregate base shall be watered and compacted to the grade approved by the Engineer. Where the required thickness of aggregate base is 8 inches or less, the base may be spread and compacted in one layer. Where the required thickness of aggregate base is more than 8 inches, the base shall be spread and compacted in 2 or more layers of approximately equal thickness. The maximum compacted thickness of any one layer shall not exceed 8 inches. The finished surface of the base material at any point shall not extend above the grade approved by the Engineer. Areas of the base material that are lower than the grade approved by the Engineer shall be filled with structure approach slab concrete at the time and in the same operation that the new concrete is placed.

#### **STRUCTURE APPROACH SLAB MATERIALS**

Reinforced concrete approach slabs shall conform to the provisions for approach slabs in Section 51, "Concrete Structures," of the Standard Specifications and these special provisions.

Concrete for use in approach slabs shall contain not less than 675 pounds of cementitious material per cubic yard.

Approach slab concrete that requires a minimum curing period of 4 hours shall be constructed using rapid strength concrete (RSC). RSC approach slabs shall be constructed using concrete conforming to the provisions in Section 90, "Portland Cement Concrete," of the Standard Specifications and a nonchloride Type C chemical admixture.

At the option of the Contractor, RSC approach slabs may be constructed using a fast setting hydraulic cement concrete conforming to the provisions in Section 90 "Portland Cement Concrete," of the Standard Specifications and the following:

- A. In lieu of the requirements specified in Section 90-2.01, "Cementitious Materials," of the Standard Specifications, the cements, either singularly or in combination, shall meet the definition of hydraulic cement in ASTM Designation: C 219 and the following requirements:

Test Description	Test Method	Requirement
Contraction in Air	California Test 527, w/c ratio = 0.39±0.010	0.053%, max.
Mortar Expansion in Water	ASTM Designation: C 1038	0.04%, max.
Soluble Chloride*	California Test 422	0.05%, max.
Soluble Sulfate*	California Test 417	0.30%, max.
Thermal Stability	California Test 553	90%, min.
Compressive Strength @ 3 days	ASTM Designation: C 109	2500 psi

\*Test is to be done on a cube specimen fabricated in conformance with the requirements in ASTM Designation: C 109, cured at least 14 days, and then pulverized so that 100% passes the No. 50 sieve.

- B. In addition to the admixtures listed on the Department's current list of approved admixtures, citric acid or borax may be used if requested in writing by the cement manufacturer and a sample is submitted to the Engineer. Chemical and mineral admixtures, if used, shall be included when testing for requirements listed in the table above.

Supplementary cementitious materials will not be required in RSC approach slab concrete.

RSC approach slab concrete shall be prequalified prior to placement in conformance with the provisions for prequalification of concrete specified by compressive strength in Section 90-9.01, "General," of the Standard Specifications and the following:

- A. Immediately after fabrication of the 5 test cylinders, the cylinders shall be stored in a temperature medium of 70 °F± 3 °F until the cylinders are tested.
- B. The 4-hour average strength of the 5 test cylinders shall not be less than 1200 psi. Not more than 2 test cylinders shall have a strength of less than 1150 psi.

Penetration requirements of Section 90-6.06, "Amount of Water and Penetration," of the Standard Specifications do not apply.

Steel angles, plates and bars at the concrete barrier joints shall conform to the provisions in Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications.

Hardboard and expanded polystyrene shall conform to the provisions in Section 51-1.12D, "Sheet Packing, Preformed Pads, and Board Fillers," of the Standard Specifications.

### **TRIAL SLAB**

Prior to beginning work on RSC approach slabs, the Contractor shall successfully complete one or more trial slabs for each concrete mix design to be used in constructing the approach slabs. Trial slabs shall be constructed, finished, cured, and tested with the materials, tools, equipment, personnel, and methods to be used in completing the approach slabs. Trial slabs shall demonstrate that the Contractor is capable of producing approach slabs in conformance with the provisions in this section, within anticipated time periods including delivery, placement, finishing, and curing times, and under similar atmospheric and temperature conditions expected during construction operations. Multiple trial slabs for each approach slab concrete mix design may be required to envelop variable atmospheric and temperature conditions.

The minimum trial slab dimensions shall be 10' x 20' x 9". Trial slabs shall be placed near the job site at a location mutually acceptable to the Engineer and the Contractor, except slabs shall not be placed on the roadway or within the project limits.

Trial slab concrete shall develop compressive strengths of at least 1200 psi after 4 hours and at least 2500 psi after 3 days when tested in conformance with the provisions in Section 90-9, "Compressive Strength," of the Standard Specifications.

Materials resulting from construction of trial slabs and test specimens shall become the property of the Contractor and shall be removed and disposed of in conformance with the provisions in Section 7-1.13, "Disposal of Material Outside the Highway Right of Way," of the Standard Specifications.

At least 2 weeks prior to use in the trial slab, the Contractor shall submit mix designs for approach slab concrete that include the following:

- A. Compressive strength at 4 hours, 3 days, 7 days, and 28 days.
- B. Proposed aggregate grading.
- C. Mix proportions of hydraulic cement and mineral admixtures, if used, aggregate, and water.
- D. Types and amounts of chemical admixtures, if used.
- E. Initial and final set time of a 1' x 1' x 5-1/2" concrete block curing at  $70 \pm 9$  °F ambient temperature.
- F. Range of ambient temperatures over which the mix design will achieve the required minimum compressive strengths.
- G. Source of materials.

## **STRUCTURE APPROACH SLAB CONSTRUCTION**

At the option of the Contractor, RSC approach slabs may be proportioned and placed by volumetric continuous mixers.

### **Weighmaster Certificates**

Weighmaster certificates for RSC for approach slabs, regardless of the proportioning method used, shall include all information necessary to trace the manufacturer and manufacturer's lot number for the cement being used. When proportioned into fabric containers, the weighmaster certificates for the cement shall contain date of proportioning, location of proportioning and actual net draft weight of the cement. When proportioned at the pour site from a storage silo, the weighmaster certificates shall contain date of proportioning, location of proportioning, and the net draft weight of the cement used in the load.

### **Volumetric Proportioning**

When RSC for approach slabs is proportioned by volume, the method shall conform to requirements specified herein.

Aggregates shall be handled and stored in conformance with the provisions in Section 90-5.01, "Storage of Aggregates," of the Standard Specifications. Liquid admixtures shall be proportioned in conformance with the provisions in Section 90-4.10, "Proportioning and Dispensing Liquid Admixtures," of the Standard Specifications. Mineral admixtures shall be protected from exposure to moisture until used. 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 batch-mixer storage hopper or in the feed line.

Batch-mixer trucks shall be equipped to proportion cement, water, aggregate, and additives by volume. Aggregate feeders shall be connected directly to the drive on the cement vane feeder. The cement feed rate shall be tied directly to the feed rate for the aggregate and other ingredients. Any change in the ratio of cement to aggregate shall be accomplished by changing the gate opening for the aggregate feed. The drive shaft of the aggregate feeder shall be equipped with a revolution counter reading to the nearest full or partial revolution of the aggregate delivery belt.

Aggregate shall be proportioned using a belt feeder operated with an adjustable cutoff gate delineated to the nearest quarter increment. Height of the gate opening shall be readily determinable. Cement shall be proportioned by a method that conforms to the accuracy requirements of these special provisions. Water shall be proportioned by a meter conforming to the provisions in Section 9-1.01, "Measurement and Payment," of the Standard Specifications and these special provisions.

Delivery rate of aggregate and cement per revolution of the aggregate feeder shall be calibrated at appropriate gate settings for each batch-mixer truck used on the project and for each aggregate source. Batch-mixer trucks shall be calibrated at 3 different aggregate gate settings that are commensurate with production needs. Two or more calibration runs shall be required at each of the different aggregate gate openings. The actual weight of material delivered for aggregate proportioning device calibrations shall be determined by a platform scale as specified in these special provisions.

Aggregate belt feeder shall deliver aggregate to the mixer with volumetric consistency so that deviation for any individual aggregate delivery rate check-run shall not exceed 1.0 percent of the mathematical average of all runs for the same gate opening and aggregate type. Each test run shall be at least 1,000 pounds. Fine aggregate used for calibration shall not be reused for device calibration.

At the time of batching, aggregates shall be dried or drained sufficiently to result in stable moisture content, so that no visible separation of water from aggregate takes place during the proportioning process. 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.

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

Rotating and reciprocating equipment on batch-mixer trucks shall be covered with metal guards.

The cement proportioning system shall deliver cement to the mixer with a volumetric consistency so that the deviation for any individual delivery rate check-run shall not exceed 1.0 percent of the mathematical average of 3 runs of at least 1,000 pounds each. Cement used for calibration shall not be reused for device calibration.

Water meter accuracy shall be such that, when operating between 50 percent and 100 percent of production capacity, the difference between the indicated weight of water delivered and the actual weight delivered shall not exceed 1.5 percent of the actual weight for each of two individual runs of 75 gallons. The water meter shall be calibrated in conformance with the requirements of California Test 109 and shall be equipped with a resettable totalizer and display the operating rate.

Calibration tests for aggregate, cement, and water proportioning devices shall be conducted with a platform scale located at the calibration site. Weighing of test run calibration material shall be performed on a platform scale having a maximum capacity not exceeding 2.75 tons with maximum graduations of one pound. The platform scale shall be error tested within 8 hours of calibration of batch-mixer truck proportioning devices. Error testing shall be performed with test weights conforming to California Test 109 and shall produce a witness scale that is within 2 graduations of the test weight load. The scale shall be available for use at the production site throughout the production period. Equipment needed for the calibration of proportioning systems shall remain available at the production site throughout the production period. A Certificate of Compliance in conformance with the provisions in Section 6-1.07, "Certificates of Compliance," shall be furnished with each delivery of aggregate, cement, and admixtures used for calibration tests and shall be submitted to the Engineer with certified copies of the weight of each delivery. The Certificate of Compliance shall state that the source of materials used for the calibration tests is from the same source as to be used for the planned work. The Certificate of Compliance shall state that the material supplied conforms to the Standard Specifications and these Special Provisions and shall be signed by an authorized representative who shall have the authority to represent and act for the Contractor.

The batch-mixer truck shall be equipped so that an accuracy check can be made prior to the first operation for the project and at any other time as directed by the Engineer. Further calibration of proportioning devices shall be required every 90 days after production begins or when the source or type of any ingredient is changed. A spot calibration shall consist of calibration of the cement proportioning system only. A two run spot re-calibration of the cement proportioning system shall be performed each time 55 tons of cement has passed through the batch-mixer truck. Should the spot recalibration of the cement proportioning system fall outside the limitations specified herein, a full calibration of the cement proportioning system shall be completed before the resumption of production.

Liquid admixtures shall be proportioned by a meter.

Cement storage shall be located immediately before the cement feeder and shall be equipped with a device that will automatically shut down the power to the cement feeder and aggregate belt feeder when the cement storage level is lowered to a point where less than 20 percent of the total volume is left in storage.

The Contractor shall furnish aggregate moisture determinations, made in conformance with the requirements of California Test 223, at least every 2 hours during proportioning and mixing operations. Moisture determinations shall be recorded and presented to the Engineer at the end of the production shift.

Each aggregate bin shall be equipped with a device that will automatically shut down the power to the cement feeder and the aggregate belt feeder when the aggregate discharge rate is less than 95 percent of the scheduled discharge rate of any bin.

Indicators specified herein shall be in working order prior to commencing proportioning and mixing operations and shall be visible when standing near the batch-mixer truck.

Identifying numbers of batch-mixer trucks shall be at least 3 inches in height, and be located on the front and rear of the vehicles.

Volumetric proportioned RSC for approach slabs shall be mixed in a mechanically operated mixer of adequate size and power for the type of RSC to be placed. Mixers may be of the auger type and shall be operated uniformly at the mixing speed recommended by the manufacturer. Mixers that have an accumulation of hard concrete or mortar shall be removed from service until cleaned. Other types of mixers may be used provided mixing quality will meet the requirements of these special provisions.

Charge or rate of feed to the mixer shall not exceed that which will permit complete mixing of the materials. Dead areas in the mixer, where material does not move or is not sufficiently agitated, shall be corrected by a reduction in the volume of material or by other adjustments. The mixer shall be designed to provide sufficient mixing action and movement to produce properly mixed RSC. Mixing shall continue until a homogeneous mixture is produced at discharge from the mixer. There shall be no lumps or evidence of non-dispersed cement at discharge from the mixer. No water shall be added to the RSC after discharge from the mixer.

Equipment having components made of aluminum or magnesium alloys that may have contact with plastic concrete during mixing or transporting of RSC shall not be used.

Uniformity of concrete mixtures will be determined by differences in penetration measurement made in conformance with the requirements in California Test 533. 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 5/8 inch. The Contractor shall furnish samples of freshly mixed concrete and provide facilities for obtaining the samples. Sampling facilities shall be safe, accessible, and clean, and shall produce a sample that is representative of production. Sample devices and sampling methods shall also conform to the requirements of California Test 125.

Ice shall not be used to cool RSC directly. When ice is used to cool water used in the mix, all of the ice shall be melted before entering the mixer.

Cement shall be proportioned and charged into the mixer by means that will result in no losses of cement due to wind, or due to accumulation on equipment, or other conditions that will vary the required quantity of cement.

Each mixer shall have a metal plate or plates, prominently attached, on which the following information is provided:

- A. Uses for which the equipment is designed.
- B. Manufacturer's guaranteed capacity of the mixer in terms of the volume of mixed concrete.
- C. Speed of rotation of the mixer.

Consistency and workability of mixed concrete when discharged at the delivery point shall be suitable for placement and consolidation.

Information generated by volumetric devices will not be used for payment calculations.

The device that controls the proportioning of cement, aggregate, and water shall produce a log of production data. The log of production data shall consist of a series of snapshots captured at 15-minute intervals throughout the period of daily production. Each snapshot of production data shall be a register of production activity at that time and not a summation of the data over the preceding 15 minutes. The amount of material represented by each snapshot shall be the amount produced in the period of time from 7.5 minutes before to 7.5 minutes after the capture time. The daily log shall be submitted to the Engineer, in electronic or printed media, at the end of each production shift or as requested by the Engineer, and shall include the following:

- A. Weight of cement per revolution count.
- B. Weight of each aggregate size per revolution count.
- C. Gate openings for each aggregate size being used.
- D. Weight of water added to the concrete per revolution count.
- E. Moisture content of each aggregate size being used.
- F. Individual volume of all other admixtures per revolution count.
- G. Time of day.
- H. Day of week.
- I. Production start and stop times.
- J. Batch-mixer truck identification.
- K. Name of supplier.
- L. Specific type, size, or designation of concrete being produced.
- M. Source of the individual aggregate sizes being used.
- N. Source, brand, and type of cement being used.
- O. Source, brand, and type of individual admixtures being used.
- P. Name and signature of operator.

Required report items may be input by hand into a pre-printed form or captured and printed by the proportioning device. Electronic media containing recorded production data shall be presented in a tab-delimited format on a cd or a 3.5-inch diskette with a capacity of at least 1.4 megabytes. Each snapshot of the continuous production shall be followed by a line-feed carriage return with allowances for sufficient fields to satisfy the amount of data required by these specifications. The reported data shall be in the above order and shall include data titles at least once per report.

### **Construction**

Bar reinforcement in drilled holes shall be bonded in conformance with the provisions for drilling and bonding dowels in Section 83-2.02D(1), "General," of the Standard Specifications.

If reinforcement is encountered during drilling before the specified depth is attained, the Engineer shall be notified. Unless the Engineer approves coring through the reinforcement, the hole will be rejected and a new hole, in which reinforcement is not encountered, shall be drilled adjacent to the rejected hole to the depth shown on the plans.

The top surface of approach slabs shall be finished in conformance with the provisions for decks in Section 51-1.17, "Finishing Bridge Decks," of the Standard Specifications. The finished top surface shall not vary more than 0.02 foot from the lower edge of a 12-foot straightedge placed parallel with the centerline. Edges of slabs shall be edger finished. The provisions for deck crack treatment do not apply to Type R approach slabs.

The surface of the approach slab will not be profiled, and the Profile Index requirements do not apply.

Approach slabs shall be cured with pigmented curing compound (1) in conformance with the provisions for curing structures in Section 90-7.01B, "Curing Compound Method," of the Standard Specifications. The minimum curing period as specified herein shall be considered to begin at the start of discharge of the last truckload of concrete to be used in the slab. Fogging of the surface with water after the curing compound has been applied will not be required. Should the film of curing compound be damaged from any cause before the approach slab is opened to public traffic, the damaged portion shall be repaired immediately with additional compound, at the Contractor's expense. Damage to the curing compound after the approach slab is opened to public traffic shall not be repaired.

If the ambient temperature is below 65 °F during the curing period, an insulating layer or blanket shall cover the surface. The insulation layer or blanket shall have an R-value rating given in the table below. At the Contractor's option, a heating tent may be used in lieu of or in combination with the insulating layer or blanket:

Temperature Range During Curing Period	R-value, minimum
55 °F to 65 °F	1
45 °F to 55 °F	2
39 °F to 45 °F	3

Tests to determine the coefficient of friction of the final textured surface will be made only if the Engineer determines by visual inspection that the final texturing may not have produced a surface having the specified coefficient of friction. Tests to determine the coefficient of friction will be made after the approach slab is opened to public traffic, but not later than 5 days after concrete placement.

Type AL joint seals shall conform to the provisions in Section 51-1.12F, "Sealed Joints," of the Standard Specifications. The sealant may be mixed by hand-held power-driven agitators and placed by hand methods.

The pourable seal between the steel angle and concrete barrier shall conform to the requirements for Type A and AL seals in Section 51-1.12F(3), "Materials and Installation," of the Standard Specifications. The sealant may be mixed by hand-held power-driven agitators and placed by hand methods. Immediately prior to placing the seal, the joint shall be thoroughly cleaned, including abrasive blast cleaning of the concrete surfaces, so that all foreign material and concrete spillage are removed from all joint surfaces. Joint surfaces shall be dry at the time the seal is placed.

### MEASUREMENT AND PAYMENT

Structural concrete, approach slab (Type R) will be measured and paid for in conformance with the provisions in Section 51-1.22, "Measurement," and Section 51-1.23, "Payment," of the Standard Specifications and these special provisions.

Full compensation for removing and disposing of portions of existing structures and pavement materials, shall be considered as included in the contract price paid per cubic yard for structural concrete, approach slab (Type R), and no separate payment will be made therefor.

The quantity of aggregate base (approach slab) to be paid for shall include the actual volume of aggregate base (approach slab) used to fill voids below the reinforced structure approach slab concrete, except for the volume of areas low as a result of over excavation. The volume to be paid for will be calculated on the basis of the constructed length, width, and thickness of the filled voids. Structure approach slab concrete used to fill voids lower than the approved grade of the base, except for the areas low as a result of over excavation, will be measured and paid for by the cubic yard as aggregate base (approach slab).

The contract price paid per cubic yard for aggregate base (approach slab) shall include full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in constructing aggregate base (approach slab), complete in place, including excavation and removing and disposing of base and subsealing materials, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

Full compensation for furnishing, stockpiling, and disposing of standby material for construction of temporary structural sections; and for constructing, maintaining, removing, and disposing of temporary structural sections shall be considered as included in the contract price paid per cubic yard for structural concrete, approach slab (Type R), and no separate payment will be made therefor.

Full compensation for constructing, testing, and removing trial slabs shall be considered as included in the contract price paid per cubic yard for structural concrete, approach slab (Type R), and no separate payment will be made therefor.

**ENGINEER'S ESTIMATE  
08-0E5804**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
1	074016	CONSTRUCTION SITE MANAGEMENT	LS	LUMP SUM	LUMP SUM	
2	074017	PREPARE WATER POLLUTION CONTROL PROGRAM	LS	LUMP SUM	LUMP SUM	
3	074038	TEMPORARY DRAINAGE INLET PROTECTION	EA	2		
4	074042	TEMPORARY CONCRETE WASHOUT (PORTABLE)	LS	LUMP SUM	LUMP SUM	
5 (S)	120090	CONSTRUCTION AREA SIGNS	LS	LUMP SUM	LUMP SUM	
6 (S)	120100	TRAFFIC CONTROL SYSTEM	LS	LUMP SUM	LUMP SUM	
7 (S)	128650	PORTABLE CHANGEABLE MESSAGE SIGN	EA	2		
8 (S)	150704	REMOVE YELLOW THERMOPLASTIC TRAFFIC STRIPE	LF	1,260		
9 (S)	150711	REMOVE PAINTED TRAFFIC STRIPE	LF	2,520		
10 (S)	150722	REMOVE PAVEMENT MARKER	EA	160		
11	153235	CLEAN BRIDGE DECK	SQFT	35,630		
12	157560	BRIDGE REMOVAL (PORTION)	LS	LUMP SUM	LUMP SUM	
13	190110	LEAD COMPLIANCE PLAN	LS	LUMP SUM	LUMP SUM	
14 (F)	192003	STRUCTURE EXCAVATION (BRIDGE)	CY	1		
15 (F)	510053	STRUCTURAL CONCRETE, BRIDGE	CY	15		
16	511106	DRILL AND BOND DOWEL	LF	591		
17 (S)	519093	JOINT SEAL ASSEMBLY (MR 3")	LF	160		
18 (S-F)	520102	BAR REINFORCING STEEL (BRIDGE)	LB	8,662		
19 (F)	540102	TREAT BRIDGE DECK	SQFT	35,630		
20	540108	FURNISH BRIDGE DECK TREATMENT MATERIAL	GAL	398		

**ENGINEER'S ESTIMATE  
08-0E5804**

Item No.	Item Code	Item Description	Unit of Measure	Estimated Quantity	Unit Price	Item Total
21 (S-F)	750501	MISCELLANEOUS METAL (BRIDGE)	LB	782		
22 (S)	840560	THERMOPLASTIC TRAFFIC STRIPE (SPRAYABLE)	LF	1,260		
23 (S)	840656	PAINT TRAFFIC STRIPE (2-COAT)	LF	2,520		
24 (S)	850101	PAVEMENT MARKER (NON-REFLECTIVE)	EA	110		
25 (S)	850111	PAVEMENT MARKER (RETROREFLECTIVE)	EA	54		
26	860090	MAINTAINING EXISTING TRAFFIC MANAGEMENT SYSTEM ELEMENTS DURING CONSTRUCTION	LS	LUMP SUM	LUMP SUM	
27	BLANK					
28	260210	AGGREGATE BASE (APPROACH SLAB)	CY	8		
29	510087	STRUCTURAL CONCRETE, APPROACH SLAB (TYPE R)	CY	80		
30	999990	MOBILIZATION	LS	LUMP SUM	LUMP SUM	

**TOTAL BID: \_\_\_\_\_**