



## **Quality Assurance Program (QAP)**

**November 18, 2022**

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## **PURPOSE**

The Contra Costa Transportation Authority Quality Assurance Program (QAP) is a sampling and testing program that will provide assurance that the materials and workmanship incorporated in each capital improvement project are in conformance with the contract specifications. This program applies only to projects that are off the National Highway System (NHS). For projects on the NHS, the procedures described in Section 16.11, Quality Assurance Program, of the Local Assistance Procedures Manual shall be followed. This program should be updated every five years or more frequently if there are changes of the testing frequencies or to the tests themselves. To accomplish this purpose, the following terms and definitions will be used:

## **DEFINITION OF TERMS**

- **Acceptance Testing (AT)** – Sampling and testing, or inspection, to determine the degree of compliance with contract requirements.
- **Independent Assurance Program (IAP)** – Verification that AT is being performed correctly by qualified testers and laboratories.
- **Quality Assurance Program (QAP)** – A sampling and testing program that will provide assurance that the materials and workmanship incorporated into the construction project are in conformance with the contract specifications. The main elements of the QAP are the AT and IAP.
- **Source Inspection** – AT of manufactured and prefabricated materials at locations other than the job site, generally at the manufactured location.
- **Source Inspection Quality Management Plan (SIQMP)** – A sampling and testing program that relates to all materials manufactured or fabricated away from the job site that will be incorporated into the final work.

## **MATERIALS LABORATORY**

The Contra Costa Transportation Authority (CCTA) will use a private consultant materials laboratory to perform AT on Federal-aid and other designated projects. The materials laboratory used shall be under the responsible management of a California registered Engineer with experience in sampling, inspection and testing of construction materials. The Engineer shall certify the results of all tests performed by laboratory personnel under the Engineer's supervision. The materials laboratory shall contain certified test equipment capable of performing the tests conforming to the provisions of this QAP.

The materials laboratory used shall provide documentation that the laboratory complies with the following procedures:

1. **Correlation Testing Program** – The materials laboratory shall be a participant in one or more of the following testing programs:
  - a. AASHTO Materials Reference Laboratory (AMRL)
  - b. Cement and Concrete Reference Laboratory (CCRL)
  - c. Caltrans' Reference Samples Program (RSP)
2. **Certification of Personnel** – The material laboratory shall employ personnel who are certified by one or more of the following:
  - a. Caltrans District Materials Engineer

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- b. Nationally recognized non-Caltrans organizations such as the American Concrete Institute, Asphalt, National Institute of Certification of Engineering Technologies, etc.
  - c. Other recognized organizations approved by the State of California and/or recognized by local governments or private associations.
3. Laboratory and Testing Equipment – The materials laboratory shall only use laboratory and testing equipment that is in good working order. All such equipment shall be calibrated at least once each year. All testing equipment must be calibrated by impartial means using devices accuracy traceable to the National Institute of Standards and Technology. A decal shall be firmly affixed to each piece of equipment showing the date of the last calibration. All testing equipment calibration decals shall be checked as part of the IAP.

### **ACCEPTANCE TESTING (AT)**

AT will be performed by a materials laboratory certified to perform the required tests. The tests results will be used to ensure that all materials incorporated into the project are in compliance with the contract specifications.

Testing methods will be in accordance with the CT Methods or a national recognized standard (i.e., AASHTO, ASTM, etc.) as specified in the contract specifications.

Sample location and frequencies may be in accordance with the contract specifications. If not so specified in the contract specifications, samples shall be taken at the locations and frequencies as shown in Appendix A “Acceptance Sampling and Testing Frequencies”. Random sampling and testing may be requested at the discretion of the CCTA. Additional sampling and testing shall be performed prior to use at the project site if material sources change.

### **INDEPENDENT ASSURANCE PROGRAM (IAP)**

IAP shall be provided by personnel from Caltrans or the CCTA’s certified private consultant materials laboratory. IAP will be used to verify that sampling and testing procedures are being performed properly and that all testing equipment is in good condition and properly calibrated.

IAP personnel shall be certified in all required testing procedures, as part of IAP, and shall not be involved in any aspect of AT.

IAP shall be performed on every type of materials test required for the project. Proficiency tests shall be performed on Sieve Analysis, San Equivalent, and Cleanness Value test. All other types of IAP shall be witness tests.

Poor correlation between acceptance tester’s results and other test results may indicate probable deficiencies with the acceptance sampling and testing procedures. In cases of unresolved discrepancies, a complete review of AT shall be performed by IAP personnel, or an independent material laboratory chosen by the CCTA. IAP samples and test are not to be used for determining compliance with contract requirements. Compliance with contract requirements is determined only by AT.

### **REPORTING ACCEPTANCE TESTING RESULTS**

The following are time periods for reporting material test results to the Resident Engineer:

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- When the aggregate is sampled at material plants, test results for Sieve Analysis, Sand Equivalent and Cleanness Value should be submitted to the Resident Engineer within 24 hours after sampling.
  - When materials are sampled at the job site, test results for compaction and maximum density should be submitted to the Resident Engineer within 24 hours after sampling.
  - When soils and aggregates are sampled at the job site:
    - (1) Test results for Sieve Analysis, Sand Equivalent and Cleanness Value should be submitted to the Resident Engineer within 72 hours after sampling.
    - (2) Test results for “R” Value and asphalt concrete extraction should be submitted to the Resident Engineer within 96 hours after sampling.

When sampling products such as Portland Cement Concrete (PCC), cement-treated base (CTB), hot mix asphalt (HMA), and other such materials; the time of such sampling shall be varied with respect to the time of the day insofar as possible, in order to avoid a predictable sampling routine. The reporting or AT results, if not performed by the Resident Engineer’s staff, shall be done on an expedited basis such as by email, fax, or telephone (telephone results should be follow by written confirmation).

### **TESTING OF MANUFACTURED MATERIALS**

Requirements for Source Inspection and testing of manufactured and prefabricate materials should be determined during the Design phase of the project and incorporated into the SIQMP. A list of material that can be typically accepted on the basis of certificates of compliance during construction is found in Appendix B “Materials Requiring a Certificate of Compliance”. All certificates of compliance shall conform to the requirements of the contract specifications for examples see Appendix C “Example Certificates of Compliance”.

### **PROJECT CERTIFICATION**

Upon completion of a Federal-aid project, a “Materials Certificate” shall be completed by the Resident Engineer. The Agency shall include a “Materials Certificate” in the Report of Expenditures submitted to the Caltrans District Director, Attention: District Local Assistance Engineer. A copy to the Materials Certificate” shall also be included in the Agency’s construction records. The Resident Engineer in charge of the construction function for the Agency shall sign the certificate. All materials incorporated into the work which did not conform to specifications must be explained and justified on the “Material Certification”, including changes by virtue of contract change orders, see Appendix D, “Example Material Certificates / Exceptions”.


### **RECORDS**

All material records of samples and tests, material releases and certificates of compliance for the construction project shall be incorporated into the Resident Engineer’s project file.

- The files shall be organized as described in Section 16.3 “Maintaining Project Records” of the Local Assistance Procedures Manual.
- It is recommended that the complete project file be available at a single location for inspection by Caltrans and Federal Highway Administration (FHWA) personnel.
- The project files shall be available for at least three years following the date of final project voucher.

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- The use of a “Log Summary”, as shown in Appendix H of the QAP Manual, facilitates reviews of material sampling and testing by Caltrans and FHWA, and assists the Resident Engineer in tracking the frequency of testing.

When two or more projects are being furnished identical materials simultaneously from the same plant, it is not necessary to take separate samples or perform separate tests for each project; however, copies of the test reports are to be provided for each of the projects to complete the records.

**APPROVED BY:**   
(Signature)

C 56861 06/30/2023  
(CE# and Expiration Date)

NAME: Ivan Ramirez

DATE: 11/18/2022

TITLE: Director, Construction

Contra Costa Transportation Authority

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## Appendix A

### Acceptance Sampling and Testing Frequencies

Note: It may be desirable to sample and store some material. If warranted, testing can be performed at a later date.

**Exhibit 16-R Sampling and Testing Frequency Table**  
for projects OFF the SHS

*Sample for Local Agency QAPs*

**Sampling and Testing Frequency Table**  
*for projects OFF the SHS.*

**HOT MIX ASPHALT (HMA) / ASPHALT CONCRETE (AC)**

Quality Characteristic	Test Method	Minimum Sampling and Testing Frequency	Location/Time of Sampling
Aggregate Gradation (Sieve)	CT 202	1 Per 1000 Tons or Part Thereof ; Minimum 1 per day during production/placement of at least 300 tons per day.	At Plant Per CT 125 (a)
Sand Equivalent	CT 217		Loose Mix Behind Paver Per CT 125
Asphalt Binder Content	CT 382		
In-Place Density and Relative Compaction (Nuclear )	Nuclear (b) CT 375 or ASTM D2950 (c)	1 Per 1000 Tons or Part Thereof ; Minimum 1 per day during production/placement of at least 300 tons per day. (b)	Random Locations Per CT 375 (c)
Theoretical Maximum Specific Gravity and Density (Rice)	CT 309	1 Per Day During Production/Placement of At Least 300 Tons Per Day	Loose Mix Behind Paver Per CT 125
HMA Moisture Content	CT 226 or CT 370		
Stabilometer Value (d)	CT 366		
Asphalt Binder	Sample per Section 92	Sample 1 min. per day for production over 300 tons per day; See (f) regarding testing.	At Plant Per CT 125
Smoothness	12-foot Straightedge	As necessary to confirm contract compliance.	Final Pavement Surface

- (a) Exact tonnage of sample location to be determined by Random Sampling Plans
- (b) Compaction determined by Nuclear Density Device. Core testing required if compaction fails the nuclear test
- (c) Correlation between core densities and nuclear device required only if compaction fails the nuclear test
- (d) Report the average of 3 tested briquettes from a single split source
- (e) Use CT 309 to determine maximum theoretical density in lieu of CT 367 calculated maximum theoretical density
- (f) No testing required unless warranted by concern ; sample and store until completion of project

**SUBGRADE (DISTURBED BASEMENT SOIL) OR EMBANKMENT**

Quality Characteristic	Test Method	Minimum Sampling and Testing Frequency	Location/Time of Sampling
Maximum Density and Relative Compaction	CT 216/CT 231	1 Min. Test per 5000 sq ft under vehicle traveled way and shoulder 1 Min. Test Per 300 linear foot under sidewalk	Random locations as determined by the Engineer in place after compaction.

**AGGREGATE BASES AND SUBBASES, IMPORTED BORROW**

Quality Characteristic	Test Method	Minimum Sampling and Testing Frequency	Location/Time of Sampling
Sieve Analysis	CT 202	1 Min. Test Per Material Source	Sample from site stockpile/plant prior to placement.
R-Value	CT 301		
Sand Equivalent	CT 217		
Maximum Density and Relative Compaction	CT 216/CT 231	1 Min. Test per 5000 sq ft	Random locations as determined by the Engineer in place after compaction.

**STRUCTURE BACKFILL, SELECT BACKFILL**

Quality Characteristic	Test Method	Minimum Sampling and Testing Frequency	Location/Time of Sampling
Sieve Analysis	CT 202	1 Min. Test Per Material Source	Sample from site stockpile/plant prior to placement
R-Value	CT 301		
Sand Equivalent	CT 217		
Maximum Density and Relative Compaction	CT 216/CT 231	1 Min. Test Per 2 Vertical Lifts of Placement	Random locations as determined by the Engineer in place after compaction.

**PORTLAND CEMENT CONCRETE (PCC) - STRUCTURAL AND SIGNAL/LIGHTING FOUNDATIONS**

**COARSE AGGREGATE**

Quality Characteristic	Test Method		
Sieve Analysis	CT 202	1 min. test per 500 cu yds and per each material source ; 1 min. test on smaller projects; If bridge, 1 min. set per separate pour per abutment/pier/deck.	Sample from site stockpile/plant prior to placement
Cleanness Value	CT 227		

**FINE AGGREGATE**

Quality Characteristic	Test Method		
Sieve Analysis	CT 202	1 min. test per 500 cu yds and per each material source ; 1 min. test on smaller projects; If bridge, 1 min. set per separate pour per abutment/pier/deck.	Sample from site stockpile/plant prior to placement
Sand Equivalent	CT 217		

**WET MIX**

Quality Characteristic	Test Method	Minimum Sampling and Testing Frequency	Location/Time of Sampling
Slump/Penetration	CT 533	2 per day	Sample from truck/work site
Cylinders	CT 539/540	1 min. set of 3 per day; If bridge, 1 min. set per separate pour of abutment/pier/deck.	

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## Appendix B

### Construction Materials Requiring a Certificate of Compliance

**Exhibit 16-T1: Materials Requiring a Certificate of Compliance per Caltrans Standard Specifications**

Caltrans 2018 Standard Specifications	Material	Additional Info and/or Attachments Required*
<b>6-1.04 BUY AMERICA</b>		
6-1.04B	Crumb rubber	COC
6-1.04C	Steel and iron materials	COC + cert. mill test reports
<b>11-2 WELDING QUALITY CONTROL</b>		
11-2.03D	Welding	COC
<b>12-3 TEMP. TRAFFIC CONTROL DEVICES</b>		
12-3.03A(3)	Plastic traffic drums	COC
12-3.20A(3)	Type K temporary railing	COC
12-3.23A(3)	Attenuator	COC
12-3.32A(3)	Portable CMS	COC
<b>13-2 WATER POLLUTION CONTROL PROGRAM</b>		
<b>13-9 TEMP. CONCRETE WASHOUTS</b>		
13-9.01C	Fabric bags for gravel-filled bags	COC
	Plastic liner	COC
<b>13-10 TEMP. LINEAR SEDIMENT BARRIERS</b>		
13-10.01C	Fiber rolls	COC
	Silt fence fabrics	COC
	Sediment filter bags	COC
	Foam barriers	COC
	Fabric for gravel-filled bags	COC
<b>16-2.03 TEMP. HIGH-VISIBILITY FENCES</b>		
16-2.03A(3)	High-visibility fabric	COC
<b>18 DUST PALLIATIVES</b>		
18-1.01C	Dust suppressant	COC
	Dust control binders	COC
	Fibers	COC
<b>20 LANDSCAPE</b>		
<b>20-2 IRRIGATION</b>		
20-2.08A(3)	Polyethylene pipe	COC
	Plastic pipe supply line	COC

\* For those materials requiring additional information on or with the COC, see specification.

Caltrans 2018 Standard Specifications	Material	Additional Info and/or Attachments Required*
<b>20-3 PLANTING</b>		
20-2.08A(3)	Sod	COC
	Soil amendment	COC
<b>20-5 LANDSCAPE ELEMENTS</b>		
20-5.03A(1)(c)	Filter fabric	COC + product data
20-5.03D(1)(c)	Solidifying emulsion	COC + product data & samples
20-5.04A(3)	Wood mulch	COC + sample & authorization
<b>21-2 EROSION CONTROL WORK</b>		
21-2.01C(1)	Straw	COC
	Weed-free straw	COC + cert. of quarantine
	Fiber	COC
	RECP	COC
	Fasteners	COC
	Hydraulically applied erosion control materials	Submit records
21-2.01C(2)	Compost	Submit reports
21-2.01C(3)	Seed	Submit reports
21-2.01C(4)	Tackifier	COC
	Bonded fiber matrix	COC
<b>24 STABILIZED SOILS</b>		
24-1.01C(1)	Stabilizing agent	COC + sample
<b>24-3 CEMENT STABILIZED SOIL</b>		
24-3.01C	Cement	COC + sample
<b>36-2 BASE BOND BREAKER</b>		
36-2.01C	Base bond breaker	COC
<b>37 BITUMINOUS SEALS</b>		
37-1.01C	Asphalt binder	COC + test results
	Asphalt emulsion	COC + test results
<b>37-3 SLURRY SEALS AND MICRO-SURFACINGS</b>		
37-3.01A(3)	Asphaltic emulsion	COC + samples & test results
	Polymer modified asphaltic emulsion	COC + samples & test results
	Micro-surfacing emulsion	COC + sample & test results
<b>37-2.04 ASPHALT RUBBER BINDER CHIP SEALS</b>		
37-2.04A(3)	Asphalt rubber binder ingredients	COC + permits & submittals

\* For those materials requiring additional information on or with the COC, see specification.

Caltrans 2018 Standard Specifications	Material	Additional Info and/or Attachments Required*
<b>37-5 PARKING AREA SEALS</b>		
37-5.01C	Parking area seal material	COC + sample & test results
<b>37-6 CRACK TREATMENTS</b>		
37-6.01C	Crack treatment materials	COC or sample & test results
<b>39-2 HOT MIX ASPHALT</b>		
39-2.01A(3)(f)	Liquid antistrip	COC + sample & production data
39-2.03A(3)(c)	Crumb rubber modifier	COC + test results
	Asphalt modifier	COC + test results
39-2.05A(1)(c)	Asphaltic emulsion	COC + test results
<b>40 CONCRETE PAVEMENT</b>		
40-1.01C(2)	Tie bars	COC
	Splice couplers for threaded bars	COC
	Dowel bars	COC
	Tie bar baskets	COC
	Joint filler	COC
	Epoxy-powder coating	COC
<b>41 EXISTING CONCRETE PAVEMENT</b>		
<b>41-5 JOINT SEALS</b>		
41-5.01C	Liquid joint sealant	COC + SDS & instructions
	Backer rods	COC + SDS & instructions
	Compression joint seal	COC + SDS & instructions
	Lubricant adhesives	COC + SDS & instructions
<b>41-10 DRILL AND BOND BARS</b>		
41-10.01C	Tie bars	COC
	Dowel bars	COC
	Dowel bar lubricant	COC
	Chemical adhesive	COC
	Epoxy powder coating	COC
<b>48-2 FALSEWORK</b>		
48-2.01C(1)	Structural composite lumber	COC + submittals
<b>49-2 DRIVEN PILING</b>		
49-2.02A(3)(d)	Steel pipe piles	COC + tests & mill reports
49-2.03A(3)	Structural shape steel piling	COC + test reports

\* For those materials requiring additional information on or with the COC, see specification.

Caltrans 2018 Standard Specifications	Material	Additional Info and/or Attachments Required*
<b>51 CONCRETE STRUCTURES</b>		
51-1.01C(3)	Bonding materials	COC or sample & authorization
<b>51-2 JOINTS</b>		
51-2.01A(3)	Polyethylene material for snowplow deflectors	COC
51-2.02B(1)(c)	Sealant	COC + test reports & samples
51-2.02C(1)(c)	Elastomeric joint seal	COC + test reports
	Lubricant-adhesive	COC + test reports
51-2.02D(1)(c)	Joint seal materials	COC + authorization
51-2.02E(1)(c)(iii)	Joint seal assembly materials	COC
51-2.02F(1)(c)(iv)	Material used in the joint seals	COC + test reports
51-2.04A(3)	Waterstop material	COC + a statement
<b>51-3 BEARINGS</b>		
51-3.02A(3)(c)	Elastomer for bearing pads	COC + test reports
<b>51-4 PRECAST CONCRETE MEMBERS</b>		
51-4.01C(1)	Concrete box culvert	COC
<b>52 REINFORCEMENT</b>		
52-1.01C(3)	Reinforcement (rebar)	COC + mill test report
<b>52-2 EPOXY-COATED REINFORCEMENT</b>		
52-2.02A(3)(c)	Epoxy-coated reinforcement	COC + submittals
	Patching material	COC + a statement
52-5.01C(4)	Headed bar reinforcement	COC + test reports
<b>52-6 SPLICING</b>		
52-6.01C(5)	Service or butt splice material	COC + submittals
<b>54 WATERPROOFING</b>		
<b>54-3 PREFORMED MEMBRANE WATERPROOFING</b>		
54-3.01C	Prefomed membrane sheet	COC + report
<b>54-5 DECK SEAL</b>		
54-5.01C	Prefomed membrane sheet	COC + report
<b>57-2 WOOD STRUCTURES</b>		
57-2.01A(3)	Timber and lumber	COC + report
	Glued laminated timbers/decking	COC
<b>57-3 PLASTIC LUMBER STRUCTURES</b>		
57-3.01C(1)	Plastic lumber	COC + test report & sample

\* For those materials requiring additional information on or with the COC, see specification.

Caltrans 2018 Standard Specifications	Material	Additional Info and/or Attachments Required*
<b>58-2 MASONRY BLOCK</b>		
58-2.01C(7)	CMUs	COC
	Aggregate for grout	COC
	Grout	COC
<b>59 STRUCTURAL STEEL COATINGS</b>		
59-1.01C	Blast cleaning material	COC + SDS
<b>59-5 THERMAL SPRAY COAT STRUCTURAL STEEL</b>		
59-5.01C(1)	Wire feedstock	COC
<b>60-3.04B POLYESTER CONCRETE OVERLAYS</b>		
60-3.04B(1)(c)	Methacrylate resins	COC + samples & test report
	Polyester resins	COC + samples & test report
	Aggregates	COC + samples & test report
<b>61-2 CULVERT AND DRAINAGE PIPE JOINTS</b>		
61-2.01C	Joint systems	COC + test results & reports
	Couplers	COC
<b>64 PLASTIC PIPE</b>		
64-1.01C	Plastic pipe	COC + report
<b>65-2 REINFORCED CONCRETE PIPE</b>		
65-2.01C	RCP, direct design method	COC + report
<b>66 CORRUGATED METAL PIPE</b>		
66-1.01C	Corrugated steel materials	COC
	Corrugated aluminum materials	COC
<b>67-3 METAL LINE PLATE PIPE</b>		
67-3.01C	Metal liner plate pipe	COC + mill test reports
<b>68 SUBSURFACE DRAINS</b>		
68-1.01C	Subsurface drain	COC
<b>68-2 UNDERDRAINS</b>		
68-2.01C	Pipe	COC
	Tubing	COC
	Fittings	COC
<b>68-7 GEOCOMPOSITE DRAIN SYSTEMS</b>		
68-7.01C	Geocomposite drain	COC + flow capability graph

\* For those materials requiring additional information on or with the COC, see specification.

Caltrans 2018 Standard Specifications	Material	Additional Info and/or Attachments Required*
<b>69 OVERSIDE DRAINS</b>		
69-1.01C	Steel pipe piles	COC
	Aluminum	COC
	Plastic	COC
<b>70-6 GRATED LINE DRAINS</b>		
70-6.01C	Grated line drains	COC + docu. & inspec. report
<b>71-3.09 MACHINE SPIRAL WOUND PVC PIPELINERS</b>		
71-3.09A(1)(c)	Reel of PVC strip	COC + report
<b>72-16 GABIONS</b>		
72-16.01C	Gabion basket	COC
	PVC coating	COC + identify
<b>75-3 MISCELLANEOUS BRIDGE METAL</b>		
75-3.01C(1)	Anchorage devices	COC
<b>75-3.01C(2) BRIDGE DECK DRAINAGE SYSTEM</b>		
75-3.01C(2)	Fiberglass pipe and fittings	COC
<b>80-3 CHAIN LINK FENCES</b>		
80-3.01C	Protective coating system	COC
	Posts and braces	COC + test results
<b>81 MISCELLANEOUS TRAFFIC CONTROL DEVICES</b>		
<b>81-2 DELINEATORS</b>		
81-2.01C	Metal target plates	COC
	Enamel coating	COC
<b>81-3 PAVEMENT MARKERS</b>		
81-3.01C	Pavement markers	COC
<b>82 SIGNS AND MARKERS</b>		
<b>82-2 SIGN PANELS</b>		
82-2.01C	Aluminum sheeting	COC
	Retroreflective sheeting	COC
	Screened-process colors	COC
	Nonreflective, opaque, black film	COC
	Protective overlay film	COC

\* For those materials requiring additional information on or with the COC, see specification.

Caltrans 2018 Standard Specifications	Material	Additional Info and/or Attachments Required*
<b>82-5 MARKERS</b>		
82-5.01C	Metal target plates	COC
	Enamel coating	COC
	Retroreflective sheeting	COC
<b>83-3 CONCRETE BARRIERS</b>		
83-3.01C	Type 60K portable concrete barrier	COC or test reports
<b>84-2 TRAFFIC STRIPES AND PAVEMENT MARKINGS</b>		
84-2.01C	Thermoplastic	COC + autho., SDS & data sheet
	Paint	COC + autho., SDS & data sheet
	Glass beads	COC + autho., SDS & data sheet
	Thermoplastic primer	COC + test results
<b>DIVISION X ELECTRICAL WORK</b>		
86-1.01C(6)	Signal heads	COC + test data
	Visors	COC + test data
<b>87-2 LIGHTING SYSTEMS</b>		
87-2.01C	High mast lighting luminaires	COC + test data
<b>90 CONCRETE</b>		
90-1.01C(3)	Cementitious materials	COC + app. signature
	Blended cement	COC + app. signature
90-1.01C(4)	Admixture	COC + authorization
90-1.01C(5)	Curing compound	COC + test samples
<b>90-2 MINOR CONCRETE</b>		
90-2.01C	Minor concrete	COC + weighmaster cert
<b>90-3 RAPID STRENGTH CONCRETE</b>		
90-3.01C(3)	Aggregate	COC + certified weight
	Cementitious materials	COC + certified weight
	Admixtures	COC + certified weight
<b>90-4 PRECAST CONCRETE</b>		
90-4.01C(2) and 90-4.01D(2)(a)	Cementitious materials	COC + app. signature
	Precast members (each)	COC + app. signature
	Curing compound	COC + test samples
<b>94 ASPHALTIC EMULSIONS</b>		
94-1.01C	Asphaltic emulsion	COC + reports

\* For those materials requiring additional information on or with the COC, see specification.

## Materials Requiring a Certificate of Compliance per Caltrans Standard Specifications

Caltrans 2018 Standard Specifications	Material	Additional Info and/or Attachments Required*
<b>95 EPOXY</b>		
95-1.01C	Epoxy	COC
<b>96 GEOSYNTHETICS</b>		
95-1.01C(1)	Geosynthetic	COC + test samples

\* For those materials requiring additional information on or with the COC, see specification.

# Appendix C

## Example Certificates of Compliance

No. 583408

STATE OF CALIFORNIA - DEPARTMENT OF TRANSPORTATION  
VENDOR'S CERTIFICATE OF COMPLIANCE  
MR-0543 (REV. 5/93) #CT-7541-6020-2

PRECAST CONCRETE PRODUCTS OR  SOUNDWALL

TO: BILL SYNDER

STATE HIGHWAY ENGINEER  
RESIDENT ENGINEER - CITY OF FLATLAND

We certify that the portland cement, chemical and mineral admixtures contained in the material described below are brands stated and comply with specifications for:

CONTRACT NUMBER:	
CEMENT BRAND <u>XYZ CEMENT CO.</u>	MILL LOCATION <u>MIDLAND, CALIFORNIA</u>
TYPE <u>II MODIFIED</u>	

CHEMICAL ADMIXTURE	
1. BRAND <u>ABC ADMIXTURE</u>	MANUFACTURER <u>XYZ SUPPLIER</u>
TYPE <u>WATER REDUCER</u>	
2. BRAND	MANUFACTURER
TYPE	

CHECK BOX IF A CHEMICAL ADMIXTURE WAS NOT USED

MINERAL ADMIXTURE	
MANUFACTURER <u>POZZ. INC.</u>	CLASS <u>F</u>

CHECK BOX IF A MINERAL ADMIXTURE WAS NOT USED

DELIVERY DATE (Ready-Mix) <u>7/7/07</u>	DATES OF FABRICATION (Precast)
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LIST PRODUCTS TO WHICH CERTIFICATE APPLIES. (Show size and lin. ft. of pipe, etc., delivery slip numbers for ready-mix.)

Portland Cement  
Flyash  
Water Reducer

MANUFACTURER OF CONCRETE PRODUCTS  
A. & B. READY MIX

By: AUTHORIZED REPRESENTATIVE SIGNATURE  
Joe Anderson

FM 93 1839

Original to Res. Engr. Retain Duplicate.

OSP 01 55624

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**Example of a Certificate of Compliance for Portland Cement**

This is to certify that the

**Portland Cement**

Supplied by ABC Cement Company complies with all requirements for Type II Portland Cement when tested in accordance with ASTM C-494.

Local Agency Project No.

HP21L – 5055 – 111

*Albert Howakowa*

Quality Assurance Engineer  
ABC Cement Company

Date: 07-07-07

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## Appendix D

### Examples of Materials Certificates / Exceptions (Signed by the Resident Engineer at the completions of the Project)

Date: \_\_\_\_\_  
Federal-aid Project No.: Project PH21L – 5055 – 111

**Subject: Materials Certification**

This is to certify that the results of the tests on acceptance samples indicate that the materials incorporated in the construction work and the construction operations controlled by sampling and testing were in conformity with the approved plans and specifications.

All materials exceptions to the plans and specifications on this project are noted below.

No Exceptions were found to the plans and specification on this project.

Bill Sanders  
Resident Engineer (Print Name)

*Bill Sanders*  
Resident Engineer (Signature)

7/7/07  
(Date)

**Note:** The signed original of this certificate is place in the Resident Engineer’s project files and one copy is mailed to the DLAE and filed under “Report of Expenditures”.

**See the attachment (next page)**

**Attachments: Materials Exceptions (Acceptance Testing)**

Type of Test	Description of work	Total Tests Performed on the Project	Number of Failed Tests	Action Taken
Slump Test	Concrete Sidewalk	8	1	When the measured slump exceeded the maximum limit, the entire concrete load was rejected.
Sand Equivalent	Aggregate for Structural Concrete	10	1	The tested S.E. was 70 and the contract compliance specification was 71 minimum. However, the concrete 28-day compressive strength was 4800 psi. The concrete was considered adequate and no materials deductions were taken.
Compaction	Sub grade Material	12	1	One failed test was noted. The failed area was watered and reworked. When this was completed, a retest was performed. The retest was acceptable.
Compaction	Hot Mix Asphalt	12	1	One failed area was noted. It was reworked and retested. The second test met specifications.

\_\_\_\_\_  
 Bill Sanders  
 Resident Engineer (Print Name)

\_\_\_\_\_  
*Bill Sanders*  
 Resident Engineer (Signature)

7/7/07  
 (Date)