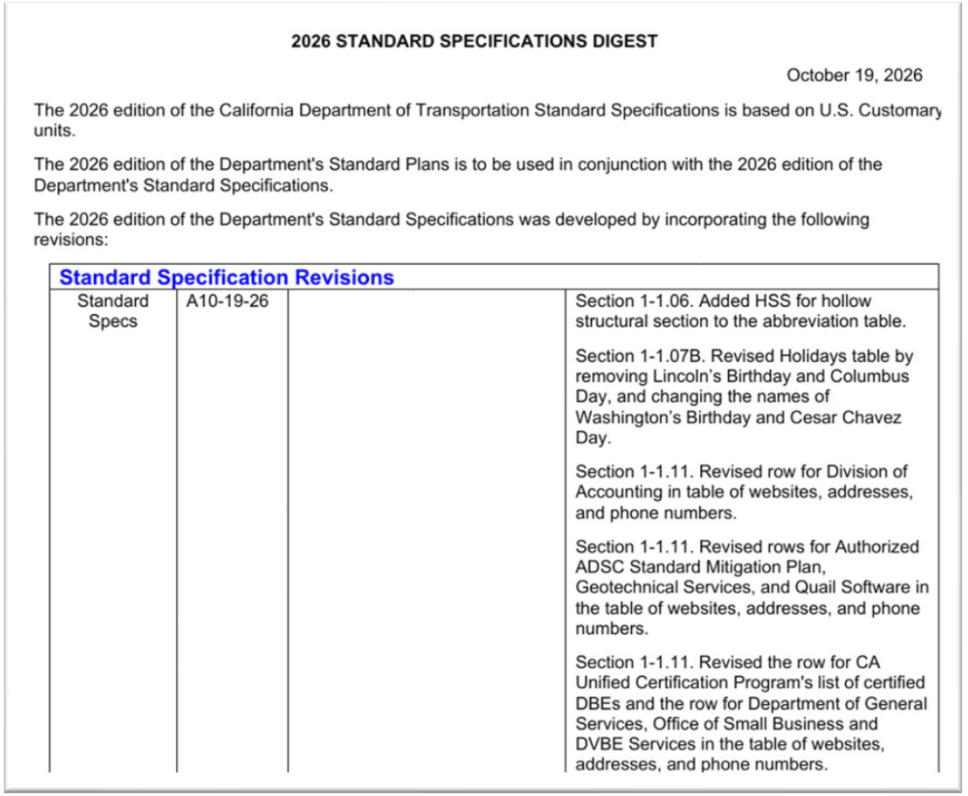
2026 Standard Specifications Structures Updates

15 OCT 2026

Structure Specifications Research & Development

Website - Notices

- https://dot.ca.gov/programs/design/ccs-standard-plans-and-standard-specifications
- Implementation Date
  - October 19, 2026
- Midcycle updates to the Standards are suspended until further notice.



2026 STANDARD SPECIFICATIONS DIGEST

October 19, 2026

The 2026 edition of the California Department of Transportation Standard Specifications is based on U.S. Customary units.

The 2026 edition of the Department's Standard Plans is to be used in conjunction with the 2026 edition of the Department's Standard Specifications.

The 2026 edition of the Department's Standard Specifications was developed by incorporating the following revisions:

Standard Specification Revisions

Standard Specs	A10-19-26		Section 1-1.06. Added HSS for hollow structural section to the abbreviation table. Section 1-1.07B. Revised Holidays table by removing Lincoln's Birthday and Columbus Day, and changing the names of Washington's Birthday and Cesar Chavez Day. Section 1-1.11. Revised row for Division of Accounting in table of websites, addresses, and phone numbers. Section 1-1.11. Revised rows for Authorized ADSC Standard Mitigation Plan, Geotechnical Services, and Quail Software in the table of websites, addresses, and phone numbers. Section 1-1.11. Revised the row for CA Unified Certification Program's list of certified DBEs and the row for Department of General Services, Office of Small Business and DVBE Services in the table of websites, addresses, and phone numbers.

Specifications Owned by SOE

Division	Section	Section Title	Subject
I General Provisions	5	CONTROL OF WORK	Submittals Load Limits
	7	LEGAL RELATIONS AND RESPONSIBILITY TO THE PUBLIC	Confined space safety and scaffolding
II General Construction	11	WELDING	All
	12	TEMPORARY TRAFFIC CONTROL	Falsework openings and lighting, maintain useable waterway traffic, maintaining traffic related to precast girder and falsework erection, and construction area signs for bridge cleaning and painting
	16	TEMPORARY FACILITIES	Temporary pedestrian facilities
III Earthwork & Landscape	19	EARTHWORK	Structure earthwork
	20	LANDSCAPE	On or attached to structures
V Surfacings & Pavements	39	ASPHALT CONCRETE	On bridges
VI Structures	45	STRUCTURES: GENERAL	All
	46	GROUND ANCHORS AND SOIL NAILS	All
	47	EARTH RETAINING SYSTEMS	All
	48	TEMPORARY STRUCTURES	All except falsework lighting
	49	PILING	All
	50	PRESTRESSING CONCRETE	All
	51	CONCRETE STRUCTURES	All
	52	REINFORCEMENT	All
	53	SHOTCRETE	All
	54	WATERPROOFING	All
	55	STEEL STRUCTURES	All
	56	OVERHEAD SIGN STRUCTURES, STANDARDS, AND POLES	All
	57	WOOD AND PLASTIC LUMBER STRUCTURES	All except wood perservatives
	58	SOUND WALLS	All
	59	STRUCTRAL STEEL COATINGS	All
	60	EXISTING STRUCTURES	All
VII Drainage Facilities	68	SUBSURFACE DRAINS	Underdrains for bridges, structure approach drainage system
	69	OVERSIDE DRAINS	Overside drains involved with slope paving
	70	MISCELLANEOUS DRAINAGE FACILITIES	Welded steel pipe casing for bridges
VIII Miscellaneous Construction	72	SLOPE PROTECTION	Slope paving
	74	PUMPING EQUIPMENT AND CONTROLS	All
	75	MISCLLANEOUS METAL	All except roadway drains and cattle guards
	76	WELLS	All
	78	INCIDENTAL CONSTRUCTION	Miscellaneous coatings
IX Traffic Control Devices	83	RAILINGS AND BARRIERS	On bridges
XI Materials	90	CONCRETE	All except rapid strength concrete

CT 342 Part 2
Skid Resistance

Standard Specification Revisions

- Section 51-1, 48-4.02B, 60-3.03B, 60-3.04B, 60-4.02. Add new method and acceptance criteria for average friction value under CT 342 Part 2.

51-1.01D(3)(b)(i) General

The Engineer tests roadway concrete surfaces for smoothness, ~~coefficient of friction~~skid resistance, and crack intensity.

51-1.01D(3)(b)(iii) ~~Coefficient of Friction~~Skid Resistance

After deck ~~surfaces~~ and approach ~~slabs~~ slab surfaces have been textured, the Engineer performs ~~friction~~skid resistance testing of the concrete surfaces under California Test 342. Allow 25 days for the Department to schedule ~~for coefficient of friction~~skid resistance testing.

~~Deck surfaces and approach slabs must have a uniform surface texture with a coefficient of friction of not less than 0.35~~ When opened to traffic or before seal coats are placed, whichever occurs first~~.~~, deck and approach slab surfaces must have:

1. Uniform texture
2. Skid resistance complying with one of the following under California Test 342:
   - 2.1. Coefficient of friction not less than 0.35 under Part 1
   - 2.2. Average friction value not less than 0.80 under Part 2

If portions of completed deck surfaces or approach ~~slabs have a coefficient of friction of less than 0.35~~slab surfaces do not comply with the skid resistance requirement, those portions must be ground or grooved parallel to the center line to ~~produce a coefficient of friction of not less than 0.35.~~comply with the skid resistance requirement. Grinding and grooving must comply with section 42.

- Purpose: Update for new test method for skid resistance under CT 342 Part 2.
- Also, sections 42-3.01D(3) and 70-5.04C.

Section 11

Standard Specification Revisions

- Section 11-1.01. Adopt 2025 editions of AWS D1.1, AWS D1.5, and AWS D1.8.

11-1.01 GENERAL

Section 11-1 includes general specifications for welding where welding is specified to comply with an AWS welding code.

Do not perform welding using flux-cored welding electrodes that comply with AWS A5.20, E6XT-4 or E7XT-4.

Wherever reference is made to the following AWS welding codes in the Contract, the year of adoption for these codes is as shown in the following table:

AWS code	Year of adoption
D1.1	~~2020~~2025
D1.3	2018
D1.4	2018
D1.5	~~2020~~2025
D1.6	2017
D1.8	~~2016~~2025

- Purpose: Stay current with AWS welding codes.

Standard Specification Revisions

- Section 11-1.02, 11-1.03. Define ***QC Inspector*** for the purpose of requirements in the Standard Specifications and leave the definitions of ***QC Inspector, QA Inspector,*** *and* ***Inspector*** as-is in the welding codes.

11-1.02 DEFINITIONS

continuous inspection: QC Inspector must be within close proximity of all welders or welding operators such that inspections by the QC Inspector of each welding activity at each welding location do not lapse for a period exceeding 30 minutes.

gross nonconformance: Rejectable indications are present in more than 20 percent of the tested weld length.

QC Inspector: Duly assigned person who acts for and on your behalf for inspection, testing, and quality related matters for all welding.

11-1.03 QUALITY CONTROL INSPECTOR

~~Replace clause 8.1.3 of AWS D1.1, the 1st paragraph of clause 9.1.2 of AWS D1.4, and clause 8.1.2 of AWS D1.5 with:~~

~~The QC Inspector must be the duly assigned person who acts for and on your behalf for inspection, testing, and quality related matters for all welding.~~
~~The QA Inspector is the authorized representative who acts for and on behalf of the Engineer.~~
~~The QC Inspector must be responsible for QC acceptance or rejection of materials and workmanship.~~
~~Where the term *Inspector* is used without further qualification, it refers to the QC Inspector.~~

- Purpose: Clarify roles and responsibilities.

Standard Specification Revisions

- Section 11-1.04. Generalize reference to ***welding personnel*** and ***inspectors***. Directly state certification requirements for personnel performing NDT.

11-1.04 PERSONNEL QUALIFICATIONS AND CERTIFICATIONS

The Engineer has the authority to verify the qualifications or certifications of ~~any welder~~welding personnel, ~~QC Inspector~~inspectors, ~~or~~ and NDT personnel to specified levels by retests or other means determined by the Engineer. If welding will be performed without gas shielding, then qualification must also include welding without gas shielding.

~~Replace clause 8.14.6.1 of AWS D1.1, clause 9.8.1 of AWS D1.4, and clause 8.1.3.4 of AWS D1.5 with:~~

~~—————~~Personnel performing NDT must be qualified and certified under ~~American Society for Nondestructive Testing (ASNT) Recommended Practice No. SNT-TC-1A and~~ the written practice of the NDT firm. The written practice of the NDT firm must comply with or exceed the guidelines of the American Society for Nondestructive Testing (ASNT) Recommended Practice No. SNT-TC-1A. Individuals who perform NDT, review the results, and prepare the written reports must be one of the following:

1. Certified NDT Level II technicians
2. Level III technicians certified to perform the work of Level II technicians

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- Purpose: Consistent reference to ***welders***, ***welding operators***, and ***tack welders***. Generalize for ***inspector*** titles in different welding codes.

Standard Specification Revisions

- Section 11-1.05. Renamed section. Removed exceptions to welding codes. Remove clause references and state requirements directly.

11-1.05 ~~WELD JOINT DETAILS~~PERFORMANCE QUALIFICATION TESTS

~~Replace the first sentence of clause 7.21.1.1 of AWS D1.1 with the following:~~

~~The separation between surfaces of plug and slot welds, and of joints landing on a backing, shall not exceed 1/16 in [2 mm].~~

~~Replace clause 5.3.1.1 of AWS D1.5 with the following:~~

~~The separation between surfaces of plug and slot welds, and of joints landing on a backing, shall not exceed 2 mm [1/16 in].~~

For welding under AWS D1.1 or AWS D1.5, ~~If~~ if weld joint details proposed for use in the work are not prequalified ~~under clause 5 of AWS D1.1 or figure 4.4 or 4.5 of AWS D1.5~~, submit the proposed WPS and the intended weld joint locations.

Upon authorization of the proposed joint detail locations and qualification of the proposed joint details, welders and welding operators using these details must weld ~~an additional~~ a performance qualification test plate using the WPS variables and the weld joint detail to be used in production. The test plate must:

- Purpose: Make heading consistent with content of section. Avoid future revisions to the Standard Specifications based on renumbering of clauses in the welding code. Clarify type of qualification test plate.

Standard Specification Revisions

- Section 11-1.07. Overhaul.

11-1.07 NONDESTRUCTIVE TESTING

~~Replace item 3 of clause 8.26.3.2 of AWS D1.5 with:~~

~~3. If indications that exhibit these planar characteristics are present at scanning sensitivity, or other evidence exists to suggest the presence of transverse cracks, a more detailed evaluation of the discontinuity by other means must be performed (e.g., alternate UT techniques, RT, grinding, or gouging for visual inspection or MT of the excavated areas.)~~

~~Replace the scanning angle in clause 8.24.2.2 of AWS D1.5 with:~~

~~e = 45° max~~

~~Clause 8.6.5 of AWS D1.1, clause 9.6.5 of AWS D1.4, and clause 8.6.5 of AWS D1.5 do not apply.~~

The Engineer may order you to perform NDT ~~that is~~ in addition to the visual inspection or NDT specified ~~in the specifications or AWS welding code~~. The additional NDT and associated repair work is change order work. If the NDT discloses an attempt to defraud or reveals a gross nonconformance, the Department does not pay for the costs associated with the repair of the deficient area, the NDT of the weld and of the repair, or any delays caused by the repair.

~~If less than 100 percent of NDT is specified for any weld, the entire length of weld must comply with the specified acceptance criteria.~~ If any welding deficiencies are discovered by additional NDT ordered or performed by the Engineer that uses the same NDT method as that originally specified, the Department does not pay for the costs associated with the repair of the deficient area, including NDT of the weld and of the weld repair, or any delays caused by the repair.

~~If any welding deficiencies are discovered by visual inspection ordered or performed by the Engineer, the Department does not pay for the costs associated with the repair of a deficient area or any delays caused by the repair.~~

- Purpose: Redundancy and obsolescence. Avoid future revisions to the Standard Specifications based on renumbering of clauses in the welding code.

Standard Specification Revisions

- Section 11-2.06. Rename heading. Remove redundancy. Remove welding code clause references and directly state requirements.

11-2.06 ~~WELDING~~ PROCEDURE~~S~~ QUALIFICATION TESTS

~~Welding procedures qualification for work welded under AWS D1.5 must comply with clause 7.12 of AWS D1.5 and the following:~~

For procedure qualification testing under AWS D1.5:

~~1. Macroetch tests are required for all WPS qualification tests, and acceptance must comply with clause 7.19.2 of AWS D1.5.~~

~~2~~1. If a nonstandard weld joint is to be made using a combination of WPSs, you may conduct a single procedure qualification test ~~under figure 7.3,~~ combining the qualified or prequalified WPSs to be used in production, if the essential variables, including weld bead placement, of each process are limited to those established in ~~table 7.6 of~~ AWS D1.5.

~~3~~2. ~~Before preparing mechanical test specimens, inspect the PQR welds by visual and radiographic tests.~~ The backing bar ~~must be 3 inches in width and~~ must remain in place during NDT. ~~Results of the visual and radiographic tests must comply with clause 8.26.2 of AWS D1.5 excluding clause 8.26.2.~~ Use acceptance criteria for welds subject to tensile stress for radiographic tests. ~~All other requirements for clause 7.17 are applicable.~~

~~When~~ For electric resistance welding ~~is used for work welded~~ under AWS D1.1, ~~the welding procedure must be qualified under Clause 6 of AWS D1.1. W~~welding procedures must be qualified for ~~the~~ each combination of thickness and ~~the~~ pole diameter tested. Test samples for tapered poles must be obtained from three locations, each end and the middle of the tapered pole, to qualify for the diameter range tested.

- Purpose: Same heading as section 11-1.06. Avoid future revisions to the Standard Specifications based on renumbering of clauses in the welding code. Redundancy.

Standard Specification Revisions

- Section 11-2.04, 11-3.02. Revised AISC certification categories.

11-2.04 PERSONNEL QUALIFICATIONS AND CERTIFICATIONS

Welding inspection personnel or NDT firms to be used in the work must not be employed or compensated by any subcontractor or by other persons or entities hired by subcontractors who will provide other services or materials for the Contract, unless one of the following conditions is met:

1. Work is welded at a ~~permanent fabrication or manufacturing plant~~facility that is certified under the AISC Certification Program ~~for Steel~~as Certified Bridge ~~Fabricators,~~Fabricator - Intermediate ~~Bridges, and~~(IBR), including Fracture ~~-~~Critical ~~Member endorsement~~Endorsement (FCE) if required~~.~~
2. Structural steel for building construction work is performed at a ~~permanent fabrication or manufacturing plant~~facility that is certified under the AISC Quality Certification Program~~, Category~~ as Building Fabricator (BU~~, Fabricators of Steel Buildings.~~)

11-3.02 WELDING INSPECTION

The AISC Certification category for overhead sign structures is Bridge ~~and Highway Metal~~ Component Manufacturer (CPT) or ~~Simple Steel~~Certified Bridge ~~Structures~~Fabricator - Simple (SBR).

The AISC Certification category for pole structures is Bridge ~~and Highway Metal~~ Component Manufacturer (CPT) or ~~Standard for Steel~~ Building ~~Structures~~Fabricator (BU).

- Purpose: Update to match AISC category descriptions.

Section 46

Standard Specification Revisions

- Section 46. Welding code requirement moved to section 46-1.01A. Welding quality control exemption moved to section 46-2.01A. Directly state requirements for materials and galvanizing. Removed requirement to be on the AML.

46-1.01A Summary

Section 46-1 includes general specifications for constructing ground anchors and soil nails.

Welding must comply with AWS D1.1

Galvanizing must comply with section 75-1.02B.

46-2.01A Summary

Section 46-2 includes specifications for constructing ground anchors.

A ground anchor consists of a steel bar or strand tendon with an anchorage assembly that is placed in a cored, formed, or drilled hole, and then grouted and stressed.

Section 11-2 does not apply to the anchorage enclosure welds or to the weld between the steel tube and the bearing plate.

46-2.02B Steel

Strand tendons, bar tendons, and bar couplers must comply with section 50-1.02B ~~and must be on the Authorized Material List for post-tensioning systems~~.

~~The anchorage enclosure and the steel tube and bearing plate of the anchorage assembly must be galvanized steel and comply with sections 55-1.02D(1) and 55-1.02E(1). Section 11-2 does not apply to the anchorage enclosure welds or to the weld between the steel tube and the bearing plate.~~

The anchorage enclosure and the steel tube and bearing plate of the anchorage assembly must be galvanized steel, complying with the material requirements in the following table:

Material	Specification
Plates	ASTM A36, ASTM A572, ASTM A588, or ASTM A709
Tubes	ASTM A500, ASTM A501, ASTM A847, ASTM A1085, ASTM A53, ASTM A106, or ASTM A139

- Purpose: Consistent organization of requirements. Simplify specifications by eliminating indirect where possible. There is no AML applicable to ground anchors.

Section 48

Standard Specification Revisions

- Section 48-7.02. New section for single span (State-designed) temporary bridges.

48-7 TEMPORARY BRIDGES

48-7.01 GENERAL

48-7.01A General

Section 48-7 includes specifications for constructing and removing temporary bridges.

48-7.01B Materials

Not Used

48-7.01C Construction

Not Used

48-7.01D Payment

Not Used

48-7.02 SINGLE SPAN TEMPORARY BRIDGE

48-7.02A General

48-7.02A(1) Summary

Section 48-7.02 includes specifications for constructing and removing single span temporary bridges.

- Purpose: Specifications to support Bridge Standard Details (xs2-010-1 thru xs2-010-6).

Section 49

Standard Specification Revisions

- Section 49-2.02B.

49-2.02B Materials
49-2.02B(1) General
49-2.02B(1)(a) General

For welding and prequalifying base metal under ~~Table 5.3 of~~ AWS D1.1, treat steel pipe piles complying with ASTM A252 as either ASTM A572~~/572M~~, Grade 50, or ASTM A709~~/709M~~, Grade 50.

For groove welds using submerged arc welding from both sides without backgouging, qualify the WPS under ~~Table 6.5 of~~ AWS D1.1.

49-2.02B(1)(b) Circumferential Welds

~~Welds~~ Welding must comply with AWS D1.1. Circumferential welds must be CJP welds.

~~If splicing steel pipe piles using a circumferential weld, the piles must comply with the fit-up requirements of clause 10.23.1 of AWS D1.1.~~

2.3. At the start of fabrication and for each thickness of the piling, furnish 3 macroetch cross-section test specimens prepared under ~~clause 6.10.4 of~~ AWS D1.1. Remove specimens at locations selected by the Engineer and in the presence of the Engineer. Test specimens must indicate that the weld is free of cracks and has thorough fusion between adjacent layers of weld metal and between weld metal and base metal. Undercut must not exceed 1/32 inch.

- Purpose: Adopt 2025 AWS D1.1 welding code. Fix references and eliminate redundancies.

Standard Specification Revisions

- Section 49-3.02A(4)(d)(iii)(A).

49-3.02A(4)(d)(iii) Gamma-Gamma Logging
49-3.02A(4)(d)(iii)(A) General

Section 49-3.02A(4)(d)(iii) applies to CIDH concrete piles except for piles (1) less than 24 inches in diameter or (2) constructed in dry or dewatered holes where the slurry displacement method is not used.

- Purpose: Require gamma-gamma logging for wet construction piles 24” and greater

Section 51

Standard Specification Revisions

- Section 51-1.01D(3)(b). Revised to exempt Type R approach slab from surface smoothness and crack intensity requirements.

51-1.01D(3)(b)(ii) Surface Smoothness

The Engineer tests the surface smoothness of the following:

1. Completed roadway concrete surfaces of structures and approach slabs except Type R approach slabs, and the adjacent 50 feet of approach pavement for tested approach slabs.
2. Surfaces of concrete decks to be covered with another material
3. Completed concrete deck surfaces, including ramps and landings of POCs

51-1.01D(3)(b)(iv) Crack Intensity

The Engineer measures crack intensity of approach slab surfaces other than Type R approach slab surfaces after curing. The Engineer measures crack intensity of ~~and~~ deck surfaces after curing, before prestressing, and before falsework release. Clean the surface for the Engineer to measure surface crack intensity.

- Purpose: It is generally unnecessary and not cost-effective to test Type R approach slabs for surface smoothness and crack intensity.

Standard Specification Revisions

- Section 51-2.02A. Add requirements for cover plate and anchorage.

51-2.02 SEALED JOINTS

51-2.02A General

51-2.02A(1) General

51-2.02A(1)(a) Summary

Section 51-2.02 includes general specifications for fabricating and installing sealed joints.

Sealed joints must:

1. Be in planned position
2. Resist the intrusion of foreign material and water
3. Provide bump-free passage of traffic

Cover plates and mechanical expansion anchors must comply with section 75. Cover plates must be galvanized. Mechanical expansion anchors do not need to be on the Authorized Material List.

- Purpose: Provide requirements for components shown on xs sheets for strip and modular joint seal assemblies.

Standard Specification Revisions

- Section 51-2.02D. Specify welding code (AWS D1.1) for fabrication of strip joint seal assemblies. Make COCs a standard requirement for all strip joint seal assemblies. Directly specify material requirements for steel parts. Standardize terminology for ***joint seal***.

51-2.02D Strip Joint Seal Assemblies ~~with a Movement Range of 4 inches or Less~~
51-2.02D(1) General
51-2.02D(1)(a) Summary

Welding must comply with AWS D1.1.

51-2.02D(1)(c)(iii) Certificate of Compliance
Submit a certificate of compliance for each shipment of joint seal assembly materials.

51-2.02D(2)(a) General
~~Metal parts~~Edgebeams must comply with ~~section 55-1.02D(3) or with~~ ASTM A36~~/A36M, except bolts, nuts, and washers must comply with the specifications for components of HS steel fastener assemblies for use in HS joints in section 75-1. Stud connectors~~, ASTM A572, or ASTM A709.

Studs must comply with AWS D1.~~5~~1, Type B.

~~Sheet neoprene~~Joint seals must comply with ~~the specifications for neoprene in~~ section 51-2.02E(2)(a). Fabricate ~~sheet neoprene~~joint seals to fit the joint seal assembly accurately. ~~Neoprene gland~~Joint seals must be continuous without field splices.

- Purpose: AWS D1.1 provides the desired the level of welding quality control. COCs previously only required for alternative strip JSAs.

Standard Specification Revisions

- Section 51-2.02E: Specify welding code (AWS D1.5) for fabrication of strip joint seal assemblies. Combined shop drawing requirements into list.

51-2.02E Modular Joint Seal Assemblies ~~with a Movement Range Over 4 inches~~

51-2.02E(1) General

51-2.02E(1)(a) Summary

Section 51-2.02E includes specifications for fabricating and installing modular joint seal assemblies with an MR over 4 inches.

Joint seal assemblies consist of metal ~~or metal~~ and elastomeric assemblies anchored or cast into a recess in the concrete over the joint.

Welding must comply with AWS D1.5.

51-2.02E(1)(c)(ii) Shop Drawings

Submit shop drawings for each joint seal assembly electronically to sc.office.associates@dot.ca.gov. Include:

1. Details of the joint seal assembly and anchorage components, including material designations.
2. Method of installation.
3. Blockout details.
4. Additions or rearrangements of reinforcing steel.
5. Thermal equation used for setting the minimum joint opening at installation. The thermal equation must be based on the structure temperature.

- Purpose: AWS D1.5 provides the desired the level of welding quality control and fatigue resistance. Bridges are loaded dynamically and cyclically, and bridge elements are susceptible to fatigue. Modular JSAs are loaded directly by wheels.

Standard Specification Revisions

- Section 51-2.02E: Directly specify material requirements for steel parts. Standardize terminology for ***joint seal***. Add requirements for ***joint seals***.

51-2.02E(2) Materials

51-2.02E(2)(a) General

Metal parts must comply with ~~section 55-1.02D(3) or with ASTM A36/A36M, except bolts, nuts, and washers must comply with the specifications for components of HS steel fastener assemblies for use in HS joints in section 75-1. Stud connectors must comply with AWS D1.5, Type B.~~ASTM A36, ASTM A572, or ASTM A709, except as specified in the following table:

Material	Requirement
Structural tubing	ASTM A500, Grade B or C, ASTM A501, ASTM A847, or ASTM A1085
Bolts	ASTM F3125, Grade A325, galvanized
Nuts	ASTM A563, galvanized
Washers	ASTM F436, galvanized
Studs	AWS D1.5, Type B

Joint seal assemblies must consist of a metal frame system, supporting rails, and support bars with intervening ~~neoprene glands~~joint seals.

~~Neoprene glands~~ Joint seals must comply with ~~specifications for neoprene in section 51-2.02E(2)(a).~~ASTM D5973 and the requirements specified in the following table:

Quality characteristic	Test method	Requirement
Hardness (points, Type A durometer)	ASTM D2240 (modified)	55–70
Compression set (%, max)	ASTM D395	40

- Purpose: Restore requirements for neoprene ***joint seals***.

Standard Specification Revisions

- Section 51-3.02B(1): Moved standard requirements for elastomeric bearing pads from SSP to Standard Specifications. Updated AREMA reference.

51-3.02B(1) General

Elastomeric bearing pads 1/2 inch or less in thickness must comply with section 51-3.02B(2).

Elastomeric bearing pads over 1/2 inch in thickness must comply with sections 51-3.02B(2) or 51-3.02B(3).

Silicone grease must comply with Society of Automotive Engineers AS 8660.

Sheet metal must be commercial-quality galvanized sheet steel, smooth and free of kinks, bends, or burrs. Joints must be butt joints sealed with plastic duct-sealing tape.

Elastomeric bearing pads for railroad underpasses must comply with the specifications for the design and construction of bearings under the AREMA Manual for Railway Engineering.

- Purpose: Standard requirement for railroad underpasses.

Standard Specification Revisions

- Section 51-6: Overhaul of mass concrete specifications. Selected changes:

1. Clarification of thermal control plan requirements.

51-6.01C(2) Thermal Control Plan

Submit a thermal control plan for each mass concrete element. The thermal control plan must be sealed and signed by an engineer who is registered as a civil engineer in the State. Allow 30 days for review.

The thermal control plan must include:

1. Mix design
2. Model inputs:
   - 2.1. Concrete placement temperature
   - 2.2. Dimensions of the element
   - 2.3. Locations of temperature monitoring sensors
   - 2.4. Ambient air temperature
   - 2.5. Rate of heat generation of the concrete
   - 2.6. Boundary condition types and details
   - 2.7. If a performance-based maximum temperature differential is used, include:
     - 2.7.1. Coefficient of thermal expansion of concrete tested under AASHTO T 336
     - 2.7.2. Compressive strength of concrete tested under CT 521 at 1, 3, and 7 days
     - 2.7.3. Tensile strength of concrete tested under ASTM C496 at 1, 3 and 7 days
     - 2.7.4. Modulus of elasticity of concrete tested under CT 522, at 1, 3, and 7 days
     - 2.7.5. Element restraints, if used
     - 2.7.6. Creep relaxation factors, if used
3. Concrete placement temperatures that will meet the Department acceptance criteria under section 51-6.01D(4) for ambient temperatures expected during concrete placement
4. If used, the performance-based maximum temperature differential
5. Duration and method of curing
6. Procedures to control concrete temperature at the time of placement
7. Methods of controlling temperature, and temperature differentials after placement
8. If mechanical cooling systems are proposed to be used, provide:
   - 8.1. Shop drawings
   - 8.2. Contingency plan for if the mechanical cooling system malfunctions
   - 8.3. SDS for coolant liquids other than water
   - 8.4 Spacing of the coolant pipes to be embedded in the concrete. Spacing is to be as uniform as feasible.
   - 8.5 Material used for the coolant pipes.
9. Temperature differential monitoring and recording system details
10. Temperature sensor types and locations

- Purpose: Requirements for thermal control plans were unclear and insufficient to ensure proper thermal control during mass concrete pours.

Standard Specification Revisions

- Section 51-6: Overhaul of mass concrete specifications. Selected changes:

2. Addition of a preconstruction meeting for mass concrete pours.

51-6.01D(2) Preconstruction Meeting

Within 3 calendar days prior to each mass concrete pour, conduct a preconstruction meeting. The attendees must include the Engineer and:

1. A representative of the concrete producer
2. The mass concrete QC manager

Be prepared to discuss:

1. Average air temperature
2. Selected concrete placement temperature
3. Passive or active cooling methods to be implemented
4. Temperature monitoring and recording

- Purpose: Align the Engineer and the contractor on this high-risk and complex concrete pour. Make sure relevant thermal control parameters and details are known by all parties going in.

Standard Specification Revisions

- Section 51-6: Overhaul of mass concrete specifications. Selected changes:

3. Updated Department Acceptance criteria, including a deduction for high temperatures.

51-6.01D(4) Department Acceptance

The temperature acceptance criteria for mass concrete elements are:

1. Maximum internal concrete temperature must not exceed 165 degrees F.
2. Maximum temperature differential must not exceed either:
   - 2.1 35 degrees F
   - 2.2 Differential in the thermal control plan

The Engineer rejects concrete elements if: (1) the maximum internal concrete temperature exceeds 165 degrees F, or (2) the maximum temperature differential is exceeded.

If the maximum internal concrete temperature exceeds 160 degrees F, the Engineer reduces payment on the quantity of structural concrete incorporated into the mass concrete element. The Engineer uses the following equation to calculate the payment reduction:

$$PR = 4 \times (MT - 160)$$

where:
PR = percentage payment reduction on the quantity of structural concrete in the mass concrete element
MT = maximum internal concrete temperature rounded to the nearest degree F

- Purpose: More clearly defines Department Acceptance criteria. Provides a default maximum temperature differential when a performance-based maximum temperature differential is not modelled. Deduction heavily discourages getting close to temperatures that will cause cracking and durability issues in the finished concrete.

Section 52

Standard Specification Revisions

- Section 52-1. Splicing requirements moved from section 52-6.
- Sections 52-1.01A, 52-1.01C(3) through 52-1.01C(9), 52-1.01D(2), 52-1.02F, 52-1.03E.

52-1.01A Summary

Section 52-1 includes general specifications for fabricating and placing reinforcement.

CJP butt-welded splices must comply with AWS D1.4.

Section 11-2 does not apply to resistance-butt-welded splices.

52-1.01C(3) Certificates

Submit a certificate of compliance for each shipment of reinforcement.

~~Submit~~ Include with the ~~following~~submittal:

1. Copy of the certified mill test report for each heat and size of reinforcing steel showing:
   1.1. Physical and chemical analysis
   1.2. Manufacturing location
2. Two copies of a list of all reinforcement before starting reinforcement placement

Submit a certificate of compliance for each shipment of service splice or ultimate butt splice material. Include with the submittal:

52-1.01D(2) Service and Ultimate Butt Splices

52-1.02F Service Splices and Ultimate Butt Splices

52-1.03E Splicing

- Purpose: Achieve original intent for section 52-1 to include general requirements applying to the placement of all reinforcement.

Standard Specification Revisions

- Section 52-1.02B. Supplementary requirement S1 for all grades of ASTM A706. Restrict substitution of welded wire reinforcement in concrete barriers.

52-1.02B Bar Reinforcement

Reinforcing bars must be deformed bars complying with ASTM A706~~/A706M, Grade 60~~, including supplementary requirement S1~~, except you may use:~~. Unless otherwise described, reinforcing bars must be Grade 60.

For Grade 60, you may use:

1. Deformed bars complying with ASTM A615~~/A615M~~, Grade 60, in:
   1.1. Junction structures
   1.2. Sign and signal foundations
   1.3. Minor structures
   1.4. Mechanically-stabilized-embankment concrete panels
2. Deformed or plain bars complying with ASTM A615~~/A615M~~, Grade 40 or 60, in:
   2.1. Slope and channel paving
   2.2. Concrete barrier Type 60
3. Plain bars for spiral or hoop reinforcement in structures and concrete piles

You may substitute welded wire reinforcement for reinforcing bars in the following:

1. Slope paving and lined ditches
2. Retaining walls
3. Concrete ~~barriers~~barrier Type 60 series and concrete barrier Wildlife Passageway series

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- Purpose: Compliance with Caltrans Seismic Design Criteria. For barriers, MASH compliance and design concerns.

Standard Specification Revisions

- Section 52-1.03C. Replaced title of ACI 318 with specification of just “ACI 318.”
- Sections 52-1.03C, 52-1.03E(2). (Grade 80) Prohibit bending no. 18 Grade 75 and higher bars. Added lap splice lengths and converted to table.

52-1.03C Bending

Do not bend or straighten bars in a way that damages the material. Do not use bars with kinks or improper bends.

For Grade 75 and higher, do not bend bars larger than no. 14.

Hooks and bends must comply with ~~the *Building Code Requirements for Structural Concrete* published by~~ ACI 318.

52-1.03E(2) Lap Splicing

For reinforcing bars complying with ASTM A615 or ASTM A706, the minimum length of each lap splice must comply with the following table:

Bar grade	Length (inches) Bar size	
	No. 8 or smaller	Nos. 9, 10, and 11
40	30 x *ds*	45 x *ds*
60	45 x *ds*	60 x *ds*
80	55 x *ds*	80 x *ds*

NOTE: *ds* = nominal diameter of smaller bar spliced

- Purpose: Title was outdated; consistent referencing of external standards.
- Purpose: Safety. Standard splice lengths previously provided in project special provisions.

Standard Specification Revisions

- Section 52-2.01A. Moved / combined submittal requirements from sections 52-2.02A and 52-2.03A. Add requirement to submit uncoated, blasted bar with epoxy-coated test samples.

52-2.01A(3)(b)(iii) Test Samples

Submit test samples of ~~epoxy-coated reinforcement and epoxy-coated prefabricated~~ coated reinforcement to METS.

For each shipment of coated reinforcement to the job site or PC plant, submit from each size of reinforcement:

1. Two 30-inch-long test samples
2. One 18-inch-long uncoated, blast-cleaned sample

Before transporting test samples:

52-2.01A(3)(c) Certificates

Submit a certificate of compliance for each shipment of coated reinforcement. Include all certifications for the powder coating and coated reinforcement as specified in the applicable ASTM standard.

Submit a certificate of compliance for the patching material and one of the following:

52-2.01A(4) Quality Assurance

~~Reserved~~Perform qualification testing and certifications required by ASTM A775, ASTM A884, and ASTM A934 at an authorized laboratory.

- Purpose: Uncoated, blast-cleaned sample necessary under SSPC-PA 2 to compensate for any effect of the substrate and surface roughness.

Standard Specification Revisions

- Section 52-2.01C. Moved lap splice lengths from section 52-6 and added grade 80.

52-2.01C Construction

Except for lap splices, cover splices of reinforcement with a corrosion protection covering. Install covering under the manufacturer's instructions.

The minimum length of each lap splice must comply with the following table:

Bar grade	Length (inches)	
	Bar size	
	No. 8 or smaller	Nos. 9, 10, and 11
60	65 x *ds*	85 x *ds*
80	85 x *ds*	115 x *ds*

NOTE: *ds* = nominal diameter of smaller bar spliced

- Purpose: Consistent organization of specifications. Lap lengths for grade 80 previously provided in project specifications.

Standard Specification Revisions

- Section 52-3.03. Provide bending radius limits for galvanized bar reinforcement. Moved lap splice lengths from section 52-6 and added grade 80.

52-3.03B Bending

The minimum inside diameter of hooks and bends must comply with the following table:

Bar size	Diameter (inches)
No. 3 through no. 6	6.0 x *d*
No. 7 through no. 11	8.0 x *d*
No. 14	10.0 x *d*

NOTE: *d* = nominal diameter of bar

52-3.03C Splicing

The minimum length of each lap splice must comply with the following table:

Bar grade	Length (inches)	
	Bar size	
	No. 8 or smaller	Nos. 9, 10, and 11
60	45 x *ds*	60 x *ds*
80	55 x *ds*	80 x *ds*

NOTE: *ds* = nominal diameter of smaller bar spliced

- Purpose: Bending radius limits not found in ACI 318 as specified in section 52-1. Lap lengths for grade 80 previously provided in project specifications.

Section 55

Standard Specification Revisions

- Section 55. Moved / consolidated welding code requirements from sections 55-1.01D(2), 55-1.01D(3)(a), and 55-1.02E(7)(a). Move standard requirements for ***fracture critical members*** from Standard Special Provisions to Standard Specifications. Define ***fracture critical member***.

55-1.01A Summary

Section 55-1 includes general specifications for furnishing and erecting structural steel or metalwork.

Structural steel (bridge) includes furnishing and erecting structural steel.

Furnish structural steel (bridge) includes fabricating and delivering structural steel to the job site ready to incorporate into the work.

Erect structural steel (bridge) includes erecting structural steel at the job site into final position in the work.

Welding must comply with AWS D1.5. Members or portions of members designated as fracture critical members must comply with:

1. For non-railroad bridges, *AASHTO/AWS Fracture Control Plan (FCP) for Nonredundant Members* of AWS D1.5
2. For railroad bridges, *Fracture Control Plan for Fracture Critical Members* of AREMA Manual of Railway Engineering

55-1.01B Definitions

fracture critical member: Member subject to fracture control practice, including nonredundant steel tension members, system redundant members, and internally redundant members.

- Purpose: Follow DGCCS for Standard Specifications vs SSPs. Allow for designation of NSTMs, SRMs, and IRMs on plans and define in terms of the fracture control plan under AWS D1.5.

Standard Specification Revisions

- Section 55. Specify qualification requirements for steel fabricators.

55-1.01D(2) Qualifications

Fabricators of structural steel components must have current certification from the AISC Quality Certification Program under AISC 207 as described below:

1. Simple Bridges for bridges consisting of unspliced rolled sections
2. Intermediate Bridges for bridges in the following categories:
   - 2.1. Rolled beam bridges with field or shop splices, either straight or with a radius over 500 feet
   - 2.2. Built-up I-shaped plate girder bridges with constant web depth, with or without splices, either straight or with a radius over 500 feet
   - 2.3. Built-up I-shaped plate girder bridges with variable web depth, either straight or with a radius over 1,000 feet
   - 2.4. Truss with a length of 200 feet or less that is entirely or substantially preassembled at the certified facility and shipped in no more than three subassemblies
   - 2.5. Press-brake-formed tub girder bridges
3. Advanced Bridges for bridges in the following categories:
   - 3.1. Railroad bridges
   - 3.2. Other bridges not included under Simple Bridges or Intermediate Bridges
4. Fracture Critical Endorsement for any fabrication conducted on fracture-critical members

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- Purpose: Provide qualification requirements that are the responsibility of the Owner to specify under AWS D1.5.

Standard Specification Revisions

- Section 55. Move standard requirements for ***fracture critical members*** from Standard Special Provisions to Standard Specifications. Generalize CVN requirement based on tension or fracture critical designation. Exempt members from CVN testing.

55-1.02D(2) Charpy V-notch Requirements

~~Structural steel used for the following components must comply with CVN impact test requirements of ASTM A709 for Zone 2:~~

~~1. Tension members, tension flanges, eyebars, and hanger plates~~
~~2. Splice plates of tension members, tension flanges, and eyebars~~

Steel for use in tension components of primary members must comply with the CVN impact test requirements of ASTM A709 for temperature zone 2, Suffix "T".

~~For fracture critical members, minimum CVN impact values are specified in the special provisions.~~

Steel for use in tension components of facture critical members must comply with CVN impact test requirements of ASTM A709 for temperature zone 2, Suffix "F".

CVN impact testing is not required for cross-frames or diaphragms in horizontally curved bridges.

Steel for structural tubing members shown as facture critical or main tension members must comply with the CVN testing requirements in ASTM A1085.

- Purpose: Follow DGCCS for Standard Specifications vs SSPs. Follow AASHTO guidance for CVN exemption.

Section 56

Standard Specification Revisions

- Section 56-1. Moved welding code requirement to section 56-1.01A. Updated for 2025 edition of AWS D1.1 by removing clause references and stating requirements directly.

56-1.01A Summary

Section 56-1 includes general specifications for constructing overhead sign structures, standards, and poles.

Welding of steel members must comply with AWS D1.1.

56-1.01D(2)(b)(ii) Ultrasonic Testing

For UT of welded joints with any members less than 5/16-inch thick or tubular sections less than 24 inches in diameter, welds must comply with the acceptance and repair criteria ~~must comply with Clause 10.26.1.1 of~~for Class R under AWS D1.1.

When performing UT, use an authorized procedure ~~under AWS D1.1, Annex O~~complying with the annex in AWS D1.1 for *UT Examination of Welds by Alternative Techniques*.

For UT of other welded joints, welds must comply with the acceptance and repair criteria ~~must comply with Table 8.3 of AWS D1.1 for~~ for cyclically loaded nontubular connections in tension.

- Purpose: Avoid future revisions to the Standard Specifications based on renumbering of clauses in the welding code.

Standard Specification Revisions

- Section 56-2.02F. Add ASTM A500 as an option for manufactured pipe posts. Grade C for all sizes; also, Grade B for specified yield strength (Fy) of 35 ksi or less.

56-2.02F Pipe Posts

Pipe posts must be welded or seamless steel pipes. Spiral seam welds are not allowed. The maximum ultimate tensile strength of pipe posts must not exceed 90 ksi. The maximum tensile yield strength of pipe posts must not exceed 70 ksi. Pipe posts having a yield strength of 50 ksi or more must comply with the Charpy V-Notch requirements in ASTM A1085~~/1085M~~.

Manufactured pipe posts must comply with one of the following:

1. API Specification 5L PSL2 Grades X52M or X52N, using nominal pipe sizes for threaded end pipe
~~2~~2. ASTM A500, Grade C
3. If the specified yield strength is 35 ksi or less:
   ~~2~~3.1. ASTM A53~~/A53M~~, Grade B
   ~~2~~3.2. ASTM A106~~/A106M~~, Grade B
   ~~2~~3.3. ASTM A1085~~/A1085M~~, Grade A
   ~~2.4~~3.4. ASTM A500, Grade B
   3.5. API Specification 5L PSL1 or PSL2 Grades B, X42R or X42M, using nominal pipe sizes for threaded end pipe

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- Purpose: Allow the use of ASTM A500 material for pipe posts, which are routinely authorized.

Standard Specification Revisions

- Section 56-2.03B(2). Move requirements from SSP for removing sign structures. Add requirements for removing walkways from existing sign structures.

56-2.03B(2) Remove Sign Structure

~~Reserved~~Section 56-2.03B(2) includes specifications for removing a sign structure or sign structure walkway.

Removing a sign structure includes removing:

1. Frames, braces, supports, and brackets
2. Portions of foundations
3. Sign panels
4. Mounting hardware for light fixtures
5. Walkways, safety railing, and gutter
6. Electrical equipment for sign lighting
7. Hardware
8. Posts

Removing a sign structure walkway includes removing:

1. Light fixtures, light fixture mounting channels, and mounting hardware for light fixtures
2. Walkways, brackets, walkway gratings, safety railings, and safety angles
3. Electrical conduits, wiring, and equipment for sign lighting

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- Purpose: Move standard requirements to the Standard Specifications. Support standard bid items for "REMOVE SIGN STRUCTURE WALKWAY (EA)" and "REMOVE SIGN STRUCTURE WALKWAY (LS)."

Section 90

Standard Specification Revisions

- Section 90-6: Lightweight concrete overhaul. Selected changes:

1. Prequalification test requirements overhauled

90-6.01D(2)(b) Prequalification

Prequalify the lightweight concrete by submitting certified test data or trial batch test reports under section 90-1.01D(5)(b), except for lightweight PC concrete you must prequalify by submitting trial batch test reports. ~~Dispose of the trial batches.~~

The prequalification submittal must include reports of (1) the test results under ASTM C330 and (2) the following for each aggregate:

1. Soundness under California Test 214
2. Absorption under ASTM C127 or ASTM C128 after immersion at room temperature for a period of 24 hours ± 4 hours
3. Specific gravity under ASTM C127 or ASTM C128 (1) after immersion at room temperature for a period of 24 hours ± 4 hours and (2) for the absorption proposed for use

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- Purpose: 1. Adopt national standard (ASTM C330). 2. Help resolve reported issues regarding aggregate quality in construction.

Standard Specification Revisions

- Section 90-6: Lightweight concrete overhaul. Selected changes:

2. Air dry unit weight test method changed from custom test to a modified ASTM C567

90-6.01D(2)(d) Air-Dry Unit Weight

Determine the air-dry unit weight under the ASTM C567 procedure for determining equilibrium density. The mass of the cylinder as dried must be taken as specified or taken after 90 consecutive days of drying. ~~Determine the air-dry unit weight as follows:~~

~~1. Test three 6-inch-diameter by 12-inch-tall cylinders.~~
~~2. Prepare the cylinders under ASTM C192/C192M or ASTM C31/C31M, whichever is applicable.~~
~~3. Cure the cylinders for 6 days.~~
~~4. On the 6th day, remove the cylinders from the molds or curing media and immerse them in water at 73.4 ± 3 degrees F for 24 hours.~~
~~5. Determine the suspended immersed weights of the cylinders.~~
~~6. Remove the cylinders from the water and determine the saturated surface-dry weights.~~
~~7. Dry the cylinders for 90 days at 73.4 ± 3 degrees F and a relative humidity of 50 ± 5 percent.~~
~~8. Weigh the dried cylinders.~~
~~9. Use the following equation to calculate the air-dry unit weight:~~

~~$W = (A \times 62.3)/(B - C)$~~

~~where:~~
~~W = air-dry unit weight, pcf~~
~~A = 90-day dried weight of the cylinder, lb~~
~~B = saturated surface-dry weight of the cylinder, lb~~
~~C = suspended immersed weight of the cylinder, lb~~

- Purpose: Adopt national standard, which is more familiar to contractors and is more well-tested. 90-day dry is allowed because it has been shown to be negligibly different from the final equilibrium weight, and sets a defined time limit for the test.

Standard Specification Revisions

- Section 90-6: Lightweight concrete overhaul. Selected changes:

3. Unit weight and air content

90-6.02A General

The unit weight of the fresh concrete used in the work must not vary from the weight shown in the test report by more than ~~4 pcf~~3 pcf for mixes without air entrainment and 5 pcf for air-entrained mixes.

~~The air-dry unit weight of lightweight concrete furnished for each mix design must be a single weight from 109 to 115 pcf for prestressed concrete and from 104 to 110 pcf for nonprestressed concrete.~~

The proposed ~~total~~ air content of freshly mixed concrete must not exceed 6 percent. An air-entraining admixture may be used to reach the proposed air content.

~~Lightweight concrete must have a 28-day compressive strength of at least that shown.~~

- Purpose: 1. Address issues regarding consistency for non air-entrained mixes, while allowing additional leeway for air-entrained mixes to ensure constructability. 2. Air-dry unit weights required for individual project designs must now be included in the project specifications 3. Must explicitly permit an air-entraining admixture, was always intended to be allowed.

Standard Specification Revisions

- Section 90-1, 90-4, 49-3: Coal ash and ASR . Selected changes:

1. Fly ash -> coal ash throughout specifications

90-1.02B(3)(a) General

Each SCM must be one of the following:

1. ~~Fly~~ Coal ash from an individual source or a blend from multiple sources, complying with:
   - 1.1. AASHTO M 295, Class F, and either of the following:
     - 1.1.1. Available alkali as $Na_2O + 0.658\ K_2O$ must not exceed 1.5 percent when tested under ASTM C311.
     - 1.1.2. Total alkali as $Na_2O + 0.658\ K_2O$ must not exceed 5.0 percent when tested under AASHTO T 105.
   - 1.2. Total of $SiO_2 + Al_2O_3 + Fe_2O_3$ in the ~~fly~~ coal ash is at least 70 percent when represented as FA and 60 percent when represented as FB, in Equation 1 below.
2. UFFA complying with AASHTO M 295, Class F, and the chemical and physical requirements shown in the following 2 tables:

- Purpose: 1. Adopts AASHTO terminology change.

Standard Specification Revisions

- Section 90-1, 90-4, miscellaneous changes. Selected changes:

1. Additional AML requirements for SCMs related to ASR

Coal ash, natural pozzolans, or blended SCMs containing coal ash or natural pozzolans, must comply with one of the alkali-silica reaction (ASR) expansion limitations shown in the table titled "ASR Expansion Limitations" using either of the following as fine aggregate for the ASR expansion testing:

1. Natural aggregate subject to the following:
   - 1.1. Lot of aggregate must fall into Zone 2 under ASTM C1778.
   - 1.2. Mortar using the lot of aggregate must show no less than 0.50 percent expansion under ASTM C1260.
2. Borosilicate glass. Mortar using the lot of borosilicate glass must show no less than 0.50 percent expansion under ASTM C1260.

ASR Expansion Limitations

Duration after casting	Test method[a,b]	Maximum expansion
16 days	ASTM C1567	0.10%
2 years	ASTM C1293	0.040%

[a]Use SCM replacement ratio based on Equation 1 in section 90-1.02B(3)(b) below with X=3

[b]Use portland cement or Type IL cement on the AML for cementitious materials in testing.

- Purpose: Helps ensure natural pozzolans and coal ash mitigate ASR as we expect them to.

Standard Specification Revisions

- Section 90-1, 90-4, miscellaneous small changes. Selected changes:

1. Standardizing QC testing minimum frequencies:

90-1.01D(10)(b)(iv) Quality Control Testing Frequencies

For each mix design used to produce CIP structural concrete, perform sampling and testing in compliance with the following tables:

Aggregate QC Tests

Quality characteristic	Test method	Minimum testing frequency
Aggregate gradation	California Test 202	Once per each day of pour ~~1-2 times per each day of pour, depending on conditions~~
Sand equivalent	California Test 217	
Cleanness value	California Test 227	
Moisture content of fine aggregate	California Test 226	

- Purpose: 1. A minimum cannot be a range and “depending on conditions” is not biddable nor contractually enforceable. 2. Upon discussion with stakeholders, once/day seemed to be sufficient for QC in the vast majority of cases.

Standard Specification Revisions

- Section 90-1, 90-4, miscellaneous small changes. Selected changes:

2. Including relevant ASTM reference for autoclave expansion, and changing reference from M 240 to ASTM C595:

90-1.02B(2) Cement

Portland cement{ XE "Portland cement" }{ XE "Cement" } must comply with ASTM C150~~/C150M~~ Type II, III or V, except:

1. Alkali content must not exceed 0.60 percent by mass of alkalies as Na_2O + 0.658 K_2O when determined under AASHTO T 105
2. Autoclave expansion under ASTM C151 must not exceed 0.50 percent
3. C_3S content of Type II cement must not exceed 65 percent
4. Type III cement may be used only if specified or authorized

Blended cement, including portland limestone cement, Type IL must comply with ASTM C595~~AASHTO M 240~~, except:

1. Maximum limits on pozzolan content do not apply
2. Sulfate resistance must be moderate (MS) or high (HS)
3. Alkali content in cement portion of blended cements must not exceed 0.60 percent by mass of alkalies as Na_2O + 0.658 K_2O when determined under AASHTO T 105

- Purpose: 1. Missing ASTM for autoclave expansion, could result in enforceability issues. 2. C595 was harmonized with M 240, and it is used more throughout our specifications.

The End