

STATE OF CALIFORNIA
DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
OFFICE ENGINEER



Specification Style Guide

for 1999 and 2006 Specifications

June 2007



PREFACE

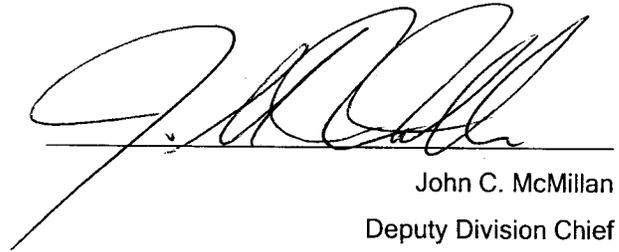
Under Decision Document 51, the Department is standardizing style and language for construction specifications. Follow this style guide for writing:

1. Amendments to the 1999 and 2006 Standard Specifications
2. New or revised Standard Special Provisions

DES-OE thanks those from other divisions and offices who provided valuable input during the creation of this guide including, Construction, Design, Environmental, Traffic Operations, North Region Design and Engineering Services, Material Engineering and Testing Services, and Structure Office Engineer.

This guide is available at:

<http://www.dot.ca.gov/hq/esc/oe/>

A handwritten signature in black ink, appearing to read 'J. C. McMillan', is written over a horizontal line. The signature is fluid and cursive.

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1 INTRODUCTION

1.1 GENERAL

This guide provides instructions for specification writers contributing to the California Department of Transportation's Standard Specifications and Standard Special Provisions (SSPs). The examples and directions in this guide are the desired goal of the Department. Currently approved Standard Specifications and SSPs may not comply with this guide.

This guide is based on information from several sources, including the Federal Register's writing guidelines, Chicago Manual of Style (CMOS), Construction Specifications Institute (CSI), AASHTO Guide Specifications for Highway Construction, and the highway construction specifications of other states. These sources may be shown in parenthesis for your information.

The examples in this guide are models for style. Do not consider them to be or use them as actual specifications.

1.2 OVERALL IMPLEMENTATION

Follow the guidance if:

1. You are revising specifications
2. You are writing new specifications
3. The change does not impact other specifications

1.3 IMPLEMENTATION OF MANDATORY CHANGES

The following table shows changes that must be incorporated in specifications that are being revised. This table is from the document "2006 Standards Alignment with Plain Language." The entire document is available at:

http://oe.dot.ca.gov/Contract_Standards_Development/2006_Alignment_with_PLV.doc

Existing Problem in Specifications	Solution
In reference to money, the usage of the terms deduct, retain, withhold, and keep is inconsistent.	Use either deduct or withhold. deduction: Amount of money permanently taken from payments. withhold: Amount of money taken from payment that may be returned partially or wholly.
"At the Contractor's expense" is used incorrectly.	Use "at the Contractor's expense" only for Contractor mistakes.
"Working days" is used for periods that are not dependent on weather. Inconsistency in use of days and weeks. Inconsistency in use of calendar days and days.	Use one of the following: 1. Days if specifying periods over 5 days. 2. Business days if specifying periods of 5 days or less. 3. Do not specify time periods in weeks or months. Use 7 days for 1 week; 15 days for 2 weeks; 5-day increments for over 15 days. For technically related time periods (curing periods), this rule does not apply if precision is needed. Change weeks to days.
"Saturdays, Sundays and legal holidays" is used; but holidays are defined in Govt Code § 6700. Sundays are included in the legal definition of holiday.	Use "Saturdays and holidays" instead of "Saturdays, Sundays and legal holidays." Definition of holiday (Sunday is a holiday according to Govt. Code). holiday: Day designated as a State holiday under Govt Code § 6700 et seq. except September 9th, "Admission Day." The day after Thanksgiving Day is a non-working day.
Incorrect and inconsistent punctuation.	Use CMOS for consistency. Use only technically necessary commas. (Do not use a comma just to indicate a pause.)
Order of work clauses are placed in a section titled "Order of Work" near the beginning of Section 10, "Construction Details," of the Special Provisions. Many of the order of work clauses are actually "Attention is directed to" clauses.	Do not create any new "order of work" SSPs. When Section 8 is amended, all "order of work" SSPs will be cancelled. Include order of work requirements in the associated Section 10 SSPs.

2 ORGANIZATION FOR NEW SPECIFICATIONS

Use this organization if the new specification is a complete specification that does not impact other specifications. See Appendix 6.1 for an example of a specification using this organization.

GENERAL

Summary

Begin each SSP with:

This work includes [applying, installing, constructing, removing] [item].

Comply with Section [Section no.] of the Standard Specifications.

If you are revising an entire section of the Standard Specifications, begin each summary section with:

Section [Section no.] includes specifications for [description of work].

Definitions

Definitions

Submittals

Product data

Working drawings

Samples

QC/QA submittals (design data, test reports, certificates, manufacturers' instructions, manufacturers' field reports, qualification statements)

Closeout submittals

Quality Control and Assurance

Qualifications

Regulatory requirements

Certifications

Field Samples

Mock-ups

Preinstallation meetings

Source quality control (tests, inspection, performance verification)

Field quality control (site tests, inspection, manufacturer's field services)

MATERIALS

Specifications for systems, materials, manufactured units, equipment, components, and accessories. Include mixes, shop fabrication, and factory finishing before delivery to the job site.

CONSTRUCTION

Specifications for how the materials are used after delivery to the job site. Write construction specifications in the order the element is constructed.

Order of work specifications. Place order of work specifications in the SSP of the item that occurs first. Do not add new order of work clauses to Section 5.

MEASUREMENT AND PAYMENT

Measurement and payment clauses

3 WRITING STYLE

Interpret each rule as if followed by "unless context and common sense dictate otherwise." Do not follow a rule if clarity is reduced. This is the #1 RULE.

3.1 REFERENCE FOR GRAMMAR, USAGE, CAPITALIZATION, AND PUNCTUATION

Use the guidance provided in CMOS for grammar, usage, capitalization, and punctuation. You can refer to any number of writing guides when writing specifications. Most provide the same basic rules, but a few differences in the rules exist. One guide was chosen to create consistency in Caltrans' specifications. CMOS's Web site has answers to many grammar, usage, capitalization, and punctuation questions. The Specification Style Guide provides rules:

1. From CMOS that are not typically used in everyday writing
2. Not covered in CMOS
3. Contrary to the rules in CMOS (only a few of these). For the contrary rules, follow the rules in this guide.

Where the CMOS allows optional styles, choose the traditional style.

3.2 FEDERAL REGISTER'S WRITING GUIDE

Follow the principles in the Federal Register's "Principles of Clear Writing." For additional explanations, refer to:

<http://www.archives.gov/federal-register/write/legal-docs/clear-writing.html>.

Bracketed text is text not in the Federal Register's guide. The following rule numbers correspond with the rule numbers in the Federal Register's guide.

1. Write in the active voice.

The active voice eliminates confusion by forcing you to name the actor in a sentence. This construction makes clear to the reader who is to perform the duty.

The passive voice makes sentences longer and roundabout. Who is responsible is much less obvious. Passive verbs have a form of the verb to be plus the past participle of a main verb.

Examples of passive verbs:

was received,
is being considered,
has been selected.

The passive voice reverses the natural, active order of English sentences. In the following passive example the receiver of the action comes before the actor.

Passive:

The regulation (receiver) was written (verb) by the drafter (actor).

Active:

The drafter (actor) wrote (verb) the regulation (receiver).

The passive voice is appropriate when the actor is unknown, unimportant, or obvious [such as in conditional clauses; for example, if alternative materials are used].

2. Use action verbs.

Don't Say	Say
is applicable to	applies to
make payment	pay
give recognition to	recognize
is concerned with	concerns

3. Use "must" instead of "shall."

shall	imposes an obligation to act, but may be confused with prediction of future action
will	predicts future action
must	imposes obligation, indicates a necessity to act
should	infers obligation, but not absolute necessity
may	indicates discretion to act

4. Be direct.

Talk directly to your readers. [In Caltrans' specifications, talk to the Contractor.] Use the imperative mood. [Also, use "you" and "your."]

Directness avoids the passive voice:

Sign all copies.
Attach a copy of your W-2 to your return.

This style results in procedures that are shorter, crisper, and easier to understand.

5. Use the present tense.

By [writing] in the present tense, you avoid complicated and awkward verb forms.

Don't Say	Say
The fine for driving without a license shall be \$10.00.	The fine for driving without a license is \$10.00.

6. Write positively.

If you can accurately express an idea either positively or negatively, express it positively.

It's better to express even a negative in positive form.

Don't Say	Say
did not comply with or failed to comply with	violated [only if referring to Contractor's activities]

[Example:

If you violate Pub Cont Code § 4100 et seq., the Department may exercise the remedies provided under Pub Cont Code § 4110.]

7. Avoid use of exceptions.

If possible, state a rule or category directly rather than describing that rule or category by stating its exceptions.

Don't Say	Say
All persons except those 18 years or older must . . .	Each person under 18 years of age must . . .

[Use "Section [Section no.] applies to [x]" or "[Requirement description] applies to [x]" or introduce requirement with "For [x]."]

However, you may use an exception if it avoids a long and cumbersome list or elaborate description.

[Many of our section scopes are broad; therefore, it is often more clear to specify the items to which the scope does not apply than to specify that the section applies only to particular item.]

[If a specification has exceptions, do not use general phrases such as "except as otherwise specified" or "except as otherwise shown." Instead, specify the particular items to which the specification does not apply.]

8. Avoid split infinitives.

The split infinitive offends many readers, so avoid it if you can.

Don't Say	Say
Be sure to promptly reply to the invitation.	Be sure to reply to the invitation promptly . or Be sure to reply promptly to the invitation.

9. Use the singular noun rather than the plural noun.

To the extent your meaning allows, use a singular noun instead of a plural noun. You will avoid the problem of whether the rule applies separately to each member of a class or jointly to the class as a whole.

Don't Say	Say	Unless you mean
The guard will issue security badges to the employees who work in Building D and Building E.	The guard will issue a security badge to each employee who works in Building D and each employee who works in Building E.	The guard will issue a security badge to each employee who works in both Building D and Building E.

[Use plural nouns for headings and titles, but do not change existing titles.

If an existing item description is in the plural, use the plural form. For a new item description, use the singular form.]

10. Be consistent.

Don't use different words to denote the same thing. Don't use the same word to denote different things.

Don't Say	Say
Each motor vehicle owner must register his or her car with the Automobile Division of the Metropolitan Police Department.	Each automobile owner must register his or her automobile with the Automobile Division of the Metropolitan Police Department.
The tank had a 200-gallon tank for fuel.	The tank had a 200-gallon fuel container.

11. Use parallel structure.

Arrange sentences so that parallel ideas look parallel. This is important when you use a list.

Nonparallel construction:

The duties of the Executive Secretary of the Administrative Committee are:
To take minutes of all the meetings; (**phrase**)
The Executive Secretary answers all the correspondence; and (**clause**)
Writing of monthly reports. (**topic**)

Parallel construction:

To take minutes of all the meetings;
To answer all the correspondence; and
To write the monthly reports.

12. Prefer simple words.

[See Preferred Expressions of this guide. Also, refer to Plain Language Web sites such as www.plainlanguage.gov and www.plainlanguagenetwork.org.]

13. Omit needless words.

Don't Say	Say
because of the fact that	because
for the period of	for
[highway right-of-way]	[highway]
[including, but not limited to]	[including]

14. Avoid redundancies.

Don't use word pairs, if the words have the same effect or where the meaning of one included the other.

[Examples of word pairs to avoid are:]

any and all	full and complete
authorize and direct	order and direct
cease and desist	means and includes
each and every	necessary and desirable

15. Use concrete words.

Abstract words can be vague and open to different interpretations. [Use] simple, concrete words. [Be specific.]

Don't Say	If you mean
vehicles	automobiles
firearms	rifles
aircraft	helicopters

16. Don't use words that antagonize.

[Not applicable to specification writing.]

17. Avoid noun sandwiches.

Administrative writing uses too many noun clusters -- groups of nouns "sandwiched" together. Avoid these confusing constructions by using more prepositions.

Don't Say	Say
underground mine worker safety protection procedures development	development of underground procedures for protection of the safety of mine workers

[The meaning becomes clear when the four-word sandwich is broken up.]

18. Don't use gender-specific terminology.

Avoid the gender-specific job title:

Don't Say	Say
crewman	crew member
foreman	supervisor
manpower	personnel, workforce

19. Write short sentences.

Readable sentences are simple, active, affirmative, and declarative.

The more a sentence deviates from this structure, the harder the sentence is to understand. Long, run-on sentences are a basic weakness in legal documents. Legal documents often contain conditions which result in complex sentences with many clauses. The more complex the sentence, the greater the possibility for difficulty in determining the intended meaning of the sentence.

Solutions:

- State one thing and only one thing in each sentence.
- Divide long sentences into two or three short sentences.
- Remove all unnecessary words. Strive for a simple sentence with a subject and verb. Eliminate unnecessary modifiers.
- If only one or two simple conditions must be met before a rule applies, state the conditions first and then state the rule.
- If two or more complex conditions must be met before a rule applies, state the rule first and then state the conditions.
- If several conditions or subordinate provisions must be met before a rule applies, use a list.

20. Make lists clear and logical in structure.

[List by sequence of work or most important to least important. If no logic, list alphabetically. Display lists of ± 3 items in vertical lists.]

21. Use short paragraphs.

A writer may improve the clarity of a [specification] by using short, compact paragraphs. Each paragraph should deal with a single, unified topic. Lengthy, complex, or technical discussions should be presented in a series of related paragraphs.

3.3 BREVITY

Be as brief as possible without reducing clarity.

Avoid prepositions (keeping in mind Federal Register's principle #17). Do not eliminate prepositions if nonparallel clauses and phrases are created as a result.

Examples:

Don't Say	Say
authority of the Engineer	Engineer's authority
working drawings for falsework	falsework working drawings

Use elliptical clauses.

Examples:

Don't Say	Say
For excusable delays that are not caused by weather, the State pays the Contractor's added costs	For excusable delays not caused by weather, the Department pays the Contractor's added costs
Bid submission shows that the bidder has investigated the site and understands the scope of work.	Bid submission shows the bidder has investigated the site and understands the scope of work.

Avoid unnecessary qualifiers.

Examples:

- actual
- all (except to differentiate between partial and whole quantities)
- any (except to specify a choice)
- existing (with remove, reconstruct, salvage, abandon, or obliterate)

Avoid "respective" and "respectively." According to The Elements of Style by William Strunk, Jr., "These words may usually be omitted with advantage."

Examples (from The Elements of Style):

Don't say	Say
Works of fiction are listed under the names of their respective authors.	Works of fiction are listed under the names of their authors.
The one mile and two mile runs were won by Jones and Cummings respectively.	The one mile and two mile runs were won by Jones and by Cummings.

3.4 SECTION 1 DEFINITIONS

Use definitions in Section 1 of the Standard Specifications appropriately.

Example:

traveled way: That portion of the roadway for the movement of vehicles, exclusive of shoulders.

3.5 INDUSTRY STANDARD

Use industry-standard terms.

Use terms in prevalent use by other states and the construction industry. Do not use terms unique to the Department.

An exception to the use of a unique term must be justified and approved by the specification owner and the Construction Division with concurrence by Legal.

3.6 PREFERRED EXPRESSIONS

Use these preferred expressions.

Use	Do Not Use Synonyms
accept (for an agreement to receive something as satisfactory)	approve authorize
approve (for CCOs, change order bills, and working drawing)	accept authorize
account	narrate narrative narration
activity	operation
adjacent	next (Adjacent can be used as an adjective. Reduced variation over easier word.)
after ^a	subsequent to
after June 30 ^a	on or after July 1
all	all the all of the
allow	permit
assign (as an action of the Contractor)	authorize designate
at	located at at the following location
because ^a	for the reason that
before ^a	prior to
before July 1 ^a	no later than June 30
by ^a	by means of
change	alter modify revise
complete	finish
comply with	adhere to follow meet (except if used as "achieving" or "reaching")
contract with ^a	enter into a contract with
count ^a	enumerate
described in (to refer to the specifications and the drawings; to refer to the contract) shown on (to refer to drawing details or notes)	indicated in
document (for general paperwork, including records) record (as a verb) record (as a noun if referring to paperwork containing recorded information)	record (for general paperwork) document (as a verb) document (as a noun if referring to paperwork containing recorded information)
during ^a	during the course of during the duration of
end - exception use: terminate (in reference to contract termination)	terminate
enough ^a	adequate number of

Use	Do Not Use Synonyms
	sufficient number of
except	excluding
fair ^a	equitable
for ^a	in the interest of with reference to
furnish - exception use: submit (to furnish work documents and samples to the Engineer or Department)	give
how ^a	the manner in which
if - exception use: when (in reference to time) where (in reference to a location; to introduce the variables of an equation)	when where subject to in case ^a in the event that ^a
instead of ^a	in lieu of
is	considers (meaning deems) deems
job site ^b	site project site contract site
keep ^a - exception, use: retain (for records)	retain
limits	parameters
may	is authorized ^a reserves the right to
notify	inform
obtain - exception, use: procure (materials)	get procure secure
on	upon (unless introducing an event or condition)
upon request	at the Engineer's request
order	direct
plant	facility
possible	feasible
produce - exception, use: manufacture (to focus on a specific production part)	fabricate
project - exception, use: job site ^b	job
provisions (for laws and permits) specifications (for specifications, including ASTM and similar references) terms (for contracts not between the State and the Contractor)	conditions requirements
quantity ^b	amount
request	ask (Request can be used as a noun and a verb. Reduced variation chosen over easier word.)
require ^a	necessitate
result ^a	consequence
Saturday or holiday	Saturday, Sunday, or legal holiday (Sunday is a

Use	Do Not Use Synonyms
	legal holiday.)
section	subsection
start	begin commence
stop ^a	cease
the, this, these, that, those (the, preferred; unless more specificity is required)	such
to	in order to
too many ^a	excessive number of
traffic	public traffic
under ^a	following meeting pursuant to in accordance with in conformance with under the provisions of
until ^a	until such time as
use ^a	utilize employ (in the sense of "use")
way ^a	manner
when ^a	at the time
while ^a	during such time as
withhold	retain
^a From the Federal Register's Guidelines, Drafting Legal Documents, Appendix B - Preferred Expressions	
^b Based on definition in Means Illustrated Construction Dictionary	

If choosing a word not in this list, balance the following:

1. Use the most basic word.
2. If the most basic word has many definitions and if those definitions can cause confusion (i.e., definitions is not obvious by context), use a more precise word.
3. Use industry-standard words.
4. If a law is referenced, use the words in the law (only the core words, not the legalese).

3.7 SPECIFICATION DUPLICATION

Include only specifications not already covered by other specifications.

In technical specifications, do not include specifications covered by implied warranty, intent of plans and specifications, payment scope, work definition, or other specifications.

Examples:

No need for	Reason
as shown on the plans (except in payment clauses)	Covered by intent of plans and specifications and definition of contract.
at the option of the Contractor (Do not specify a minimum or maximum unless the value truly is a minimum or maximum and you want to allow the Contractor to use anything greater or less. Specifying a minimum or maximum and then specifying that the Engineer must authorize the use of a greater or lower value is ambiguous. See "unless otherwise permitted by the Engineer" below.)	Covered in Section 5.
"Approval by the Engineer of the working drawings will be contingent on the working drawings being satisfactory to the railroad company involved" or similar	The contract is between the State and the Contractor. Third-party contingencies are irrelevant to the contract.
Driving equipment that damages piling shall not be used; provided driving does not injure the posts; and similar "do not use methods or equipment that damage the work" clauses.	Covered by "The Contractor shall accept the compensation . . . as full payment for . . . loss or damage arising from the nature of the work," clause in Section 9-1.02.
in writing (for Department authorizations, certifications, approvals, and notifications; for Contractor assignments, proposals, requests for information, test results, subcontracts)	Section 1 specifies that these items are in writing (pending Section 1 rewrite).
Prior to closing a roadway to traffic to accommodate bridge removal operations, the Contractor shall have all necessary workers, materials, and equipment at the site as needed to proceed with the removal work in an expeditious manner. While the roadway is closed to public traffic, work shall be pursued promptly and without interruption until the roadway is reopened to public traffic.	Covered by public convenience specifications in Section 7.
satisfactory to the Engineer, as determined by the Engineer, and similar phrases and clauses	Covered by intent of plans and specifications and authority of Engineer.
specifying what happens if the Engineer fails to do something within a specified time	Covered in Section 8—delay definitions and delay specifications (pending Section 8 rewrite).
unless otherwise permitted by the Engineer on approval of the Engineer if authorized by the Engineer	Ambiguous. Section 4 covers how changes are made.
unless otherwise specified in these special provisions	Section 5 includes wording to resolve conflicts.
"The Engineer's review and approval shall not waive any contract requirements and shall not relieve the Contractor from complying with Federal, State and local laws, regulations, and requirements," or similar.	Covered in Sections 5 and 7.
[Work description] includes furnishing materials.	Covered in Section 6.

3.8 COMMON CLAUSES AND PHRASES

Use these common clauses and phrases. For additional common clauses, see Payment Clauses and References.

To	Write
say the Department does not pay for something [Do not use for optional use of materials or equipment or for samples. See Section 9 of the Standard Specifications for descriptions of what the Department pays for.]	The Department does not pay for []. The Department does not adjust payment for []. [Do not use "at no additional cost to the Department" or "at the Contractor's expense."]
say one specification does not relieve the Contractor of the responsibilities in another specification	[] does not void []. Example: Partnering does not void any contract part.
direct the Contractor to dispose of materials	Dispose of [the material] under Section 7-1.13, "Disposal of Materials Outside the Highway Right of Way," of the Standard Specifications.
direct the Contractor to submit a Certificate of Compliance	Submit a Certificate of Compliance for [the material] to the Engineer under Section 6-1.07, "Certificates of Compliance," of the Standard Specifications
to require a licensed civil engineer to sign a submittal	The drawings must be signed by an engineer who is registered as a civil engineer in the State.

3.9 PAYMENT CLAUSES

To maintain a certain level of consistency between existing payment clauses and the new payment clauses in specifications written using this guide, use the following payment clauses.

3.9.1 CONTRACT ITEM PAY CLAUSE

To specify payment for a contract item of work not covered in the Standard Specifications, write:

The contract 1 price paid per 2 for 3 includes full compensation for furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in 4, complete in place, including 5, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.

1. Enter "lump sum" if item is lump sum or "unit" if item is each. No entry for other measurements.
2. Enter "cubic yard", "feet", etc. No entry if lump sum or each and delete the word "per."
3. Enter exact wording of the contract item.
4. Enter the description of work.
5. Enter description of work that is normally paid for separately.

3.9.2 MODIFIED CONTRACT ITEM PAY CLAUSE

To describe measurement and payment for an item in the same manner as a similar item in the Standard Specifications, write:

1 is measured and paid for 2 in the same manner specified for 3 in Section 4 of the Standard Specifications.

1. Enter exact wording of the contract item.
2. Enter "on a lump sum basis," "by the cubic yard," etc. If "lump sum" is used, delete the words, "measured and."
3. Enter exact wording of the similar Standard Specifications item.
4. Enter the Standard Specifications section that provides payment for the item listed. Include section number and title.

3.9.3 FULL COMPENSATION PAY CLAUSE

To include payment for one item in another contract item, write:

Full compensation for 1 is included in the contract 2 price paid per 3 for 4 , and no 5 therefor.

1. Enter the description of work.
2. Enter "lump sum" if item is lump sum or "unit" if item is each. No entry for other measurements.
3. Enter "cubic yard", "feet", etc. No entry if lump sum or each and delete the word "per."
4. Enter exact wording of the contract item that is to include payment for work written in 1.
5. Enter "separate payment will be made" if the work listed in 1 is usually a separate contract item; otherwise, enter "additional compensation will be allowed."

3.9.4 TRANSFER PAY CLAUSE

To pay for the quantity of one item of work as another contract item, write:

 1 will be measured and paid for as 2 .

1. Enter the item of work that is paid for as the contract item listed in 2.
2. Enter the exact wording of the contract item.

3.9.5 EXTRA WORK PAY CLAUSE

To pay for extra work, write:

 1 will be paid for as extra work as specified in Section 4-1.03D, "Extra Work," of the Standard Specifications.

1. Enter the description of work to be paid for as extra work.

3.9.6 DEDUCTIONS (Pending Section 8 rewrite)

To charge the Contractor for something, write:

The Department will deduct 1 .

1. Enter "the charges," "the cost of this work," or "the cost of (modifier) work."

3.10 REFERENCES

Do not use "attention is directed to" or similar phrases.

Use direct references for required references.

Examples (also see "TABLES"):

Reference Description	Example
<p>If an item must comply with a specification:</p> <p>[Item] must comply with . . .</p>	<p>High-strength bolted connections must comply with Section 55-3.14, "Bolted Connections," of the Standard Specifications.</p> <p>Calcium chloride must comply with ASTM D 98.</p>
<p>If an item must comply with a specific part of a specification:</p> <p>[Item] must comply with the [material] specifications [for [referenced item]] in [Section No., ASTM, etc.].</p>	<p>Anchorage devices must comply with the specifications for concrete anchorage devices in Section 75-1.03, "Miscellaneous Bridge Metal," of the Standard Specifications.</p> <p>Corrugated aluminum pipe inlets must comply with the material specifications in Section 66, "Corrugated Metal Pipe," of the Standard Specifications.</p>
<p>If work must be performed following a specification or law:</p> <p>[Furnish, handle, place, test] under [section number, ASTM, law, etc.].</p>	<p>Handle rock core samples under ASTM D 5079.</p>
<p>To refer to a Web site:</p> <p>[Item] is available at:</p> <p>[Web address]</p> <p>or</p> <p>Submit [item] with [form name] available at:</p> <p>[Web address]</p> <p>(Do not add "Electronic copies of" to the name of the item. Use Indent 1 Hanging for the address line. Add a space before and after the address.)</p>	<p>A current list of debarred contractors is available at:</p> <p>http://www.dir.ca.gov</p>

Do not say "in this section," "specified herein," etc. Be specific and provide section number.

Example:

Don't Say	Say
<p>The unsuitable material shall be placed and compacted in layers as hereinafter specified for construction embankments.</p>	<p>Place and compact unsuitable material in layers as specified for construction embankments in Section 19-6.02, "Compacting."</p>

Use spacing as specified by the referenced organization. For ASTM and AASHTO references, add a space between the letter designation and the number.

For a Federal or military specification, do not add the letter or number-letter combination that indicates the version.

Examples:

- ASTM A 706/A 706M
- AASHTO M 314
- MIL-P-236
- Federal Specification TT-S-230

Refer to forms by form names. Do not include form numbers.

3.11 PROPRIETARY ITEMS

For a proprietary item, specify only the product's name and company's name. Company addresses and phone numbers are not provided due to potential changes.

3.12 LAW CITATION

Cite a law if the law:

1. States that it must be stipulated in the Contract
2. Provides options and the Department has chosen to specify one of the options
3. Provides baseline requirements and the Department wants a higher level of performance (and is willing to pay for it) and specifies the additional requirements
4. Involves a penalty collected by the Department

If references are not required and are only added as an aid, make them parenthetical. Example: The Contractor must be properly licensed (Pub Cont Code § 10164) at the time the contract is awarded.

If the law must be included in the Contract, use exact words only if required by law.

Use the citation format described in the Universal Citation Guide available at:

<http://www.aallnet.org/committee/citation/ucg/>.

Exceptions:

1. Do not include the name of the act (unless it is needed for clarity).
2. Do not include "CA" because the Standard Specifications say that referenced laws are CA laws unless specified as a Federal law (pending Section 1 rewrite).
3. Do not italicize.

Law Citation Abbreviations ^a	
General	
Amendment	Amend
Article	Art
Chapter	Ch
Clause	Cl
Paragraph	Para
Part	Pt
Regulations	Regs
Section	§
Statute, Statutes	Stat, Stats
Volume	Vol

Federal Laws	
United States Code	USC
Code of Federal Regulations	CFR ^b

CA Codes-Statues	
Business and Professions	Bus & Prof Code
Civil	Civ Code
Civil Procedure	Civ Pro Code
Commercial	Com Code
Corporations	Corp Code
Financial	Fin Code
Fish and game	Fish & Game Code

Law Citation Abbreviations^a	
CA Codes-Statues	
Food and Agricultural	Food & Agri Code
Government	Govt Code
Harbors and Navigation	Harb & Nav Code
Health and Safety	Health & Safety Code
Insurance	Ins Code
Labor	Labor Code
Military and Veterans	Mil & Vet Code
Public Contract	Pub Cont Code
Public Resources	Pub Res Code
Public Utilities	Pub Util Code
Streets and Highways	St & Hwy Code
Vehicle	Veh Code

CA Codes-Regulations	
CA Code of Regulations	CA Code of Regs

^aOther abbreviations can be found in Appendix C of the Universal Citation Guide.

^bFor a CFR, use title, part, and section number.

Examples:

49 CFR 1.1.

(Note: 49 CFR 1.1 means title 49, part 1, section 1.)

29 USC § 201 et seq. applies to this contract

(Note: 29 USC § 201 et seq. means Title 29 of the United States Code, Section 201 and the following.)

The State makes the partial payments under Pub Cont Code § 10264.

(Note: Pub Cont Code § 10264 means Public Contract Code Section 10264.)

3.13 PUNCTUATION AND TYPOGRAPHY

3.13.1 CAPITALIZATION

Capitalize the following terms if used as defined in the Standard Specifications:

Contractor	State
Department	Structure Design
Engineer	Transportation Laboratory
Standard Specifications	

Capitalize "the Bidder" but not "a bidder."

Capitalize "Federal."

Capitalize the following terms if used with a number (CSI):

Paragraph	Section
-----------	---------

Capitalize the following terms as used in the reference (ASTM):

Type	Class	Grade
------	-------	-------

Capitalize each main word in a form name.

Use ALL CAPS only for headings 1, 2, and 3.

3.13.2 COMMAS

Use the serial comma (CMOS 6.19).

Use only technically necessary commas. Do not use a comma just to indicate a pause.

3.13.3 EMPHASIS

Use bold type only for headings and definitions.

Do not use bold, caps, underlining, quotation marks, or italics for emphasis.

3.13.4 FONT

Use 12 point for SSP text. Use 10 point in tables.

3.13.5 HYPHENS

See Phone Numbers, Measurements, Ranges, and Tables for use of hyphens.

3.13.6 ITALICS

Do not italicize document names (forms, publications, etc.)

3.13.7 PARENTHESES

Use parentheses for:

1. Law citation references
2. Abbreviations

Do not add parentheses for information that is essential to the specification.

For example, do not use parentheses in the following sentence:

If subbase or base material (other than asphalt concrete base) to be placed on the grading plane is to be paid for the ton . . .

3.13.8 QUOTATION MARKS

Use quotation marks only for referring to:

1. Terms as terms. For example, write "Wet Paint" on a piece of cardboard.
2. Titles of sections of the Standard Specifications and special provisions.

Do not use quotation marks for document names.

3.13.9 SPACES

Use two spaces after each period and colon.

Use two spaces between the heading number and name.

3.14 ABBREVIATIONS

Use abbreviations shown in Standard Specifications Section 1, Appendix C of NIST Handbook 44, or a collegiate dictionary. Exception: Do not use an abbreviation with a superscript.

Avoid using abbreviations in headings.

Avoid abbreviations (CSI); however, you may use an abbreviation if the abbreviation is in a referenced standard. You may use a Department-unique abbreviation only if it is used 3 or more times. Exception: Do not use an abbreviation if only a few letters are eliminated. For example, QC is defined, and only 6 letters are eliminated by using QCM instead of QC manager; therefore, do not use QCM.

In SSPs:

1. If an abbreviation is first introduced in a section, spell out the term and follow with the abbreviation in parentheses.
2. Do not spell out the abbreviation if the abbreviation is spelled out in a referenced standard specification.

Abbreviations include acronyms (CMOS 15.3).

3.15 DEFINITIONS

Only define a term:

1. Not industry standard. If the word is defined in a Means Illustrated Construction Dictionary, do not define it.
2. With multiple meanings and the term can reasonably be interpreted multiple ways.
3. Used multiple times in a specification.

Avoid using the term being defined in the text of a definition.

Avoid beginning a definition with an article.

List definitions in alphabetical order.

Capitalize the term only if it is capitalized in the text (CMOS 2.28).

End each definition with a period.

Use bold type for the word being defined.

Use a colon followed by 2 spaces between the word being defined and the definition.

Use indent 1 hanging style.

Example:

signal head: Assembly containing 1 or more signal face.

Example:

Use the following equation to calculate the air-dry weight:

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

where:

W = air-dry weight, lb/cu ft

A = 90-day weight of the cylinder as dried, lb

B = saturated, surface-dry weight of cylinder, lb

C = suspended-immersed weight of cylinder, lb

Avoid using Microsoft Word's Equation Editor. If you must use Equation Editor, perform the command "Unlink Fields" to convert the equation into text format.

3.20 FRACTIONS

Do not use superscript and subscript fonts (1-1/2 not 1^{1/2}) (CSI).

3.21 MEASUREMENTS

Use an abbreviations instead of a word if used with a number. Exceptions (CSI):

1. Spell out feet where inches are not used (8 feet).*
2. Spell out inches where feet are not used (8 inches).*
3. Where feet and inches are both used, use symbols (8'-8" or 8'-2-1/2").
4. Spell out time measurements (year, hour).

*Exception: You may use ft for foot or feet and in for inch or inches in nonheading table cells.

Use a space between a number and a unit abbreviation, even if the measurement is an adjective (CMOS 7.90).

Use a hyphen between a number and an unabbreviated unit if the measurement is an adjective before a noun. Use a space if the measurement is after a noun.

Use a hyphen between combination measurements (8'-2") (CSI).

In measurement abbreviations, omit periods (NIST).

For temperatures, use degree symbol. Use a space between the numeral and the degree symbol (NIST).

Example: 72 °F 22 °C

Use military time for traffic operations; otherwise, use civilian time (per agreement with Traffic).

For civilian time, use midnight and noon instead of 12:00 p.m. and 12:00 a.m. Examples from CMOS 9.42 through 9.44:

Civilian	Military
11:00 p.m.	2300
noon	1200
midnight	2400 or 0000
12:01 a.m.	0001
2:38 p.m.	1438

For periods that are not dependent on weather (submittals, notifications, review times, etc.), use days or business days, not working days.

Use one of the following:

1. Days for specifying periods over 5 days
2. Business days if specifying periods 5 days or less

Do not specify time periods in weeks or months.

Use 7 days for 1 week; 15 days for 2 weeks; 5-day increments for over 15 days. For technically related time periods, this rule does not apply if precision is needed (curing periods).

Govt Code § 6707 covers the case of a document due on a Saturday or holiday:

6707. When the last **day** for filing any instrument or other document with a state agency falls upon a Saturday or holiday, such act may be performed upon the next **business day** with the same effect as if it had been performed upon the day appointed.

3.22 PERCENTAGES

Do not repeat "percent" in ranges and tolerances.

Don't say	Say
2 percent to 4 percent	2 to 4 percent
3 percent ±1 percent	3 ± 1 percent

3.23 ADDRESSES

Follow USPS recommendations.

Format	Example
Mailstop Code	MSC 43
Attention Line	OFFICE ENGINEER
Business/Firm Name	DEPARTMENT OF TRANSPORTATION
Delivery Address Line	1727 30TH ST
City, State, ZIP + 4	SACRAMENTO CA 95816-7005

To keep the address together in one page, place address in a single cell borderless table format. Use 10 point font.

3.24 PHONE NUMBERS

(area code) space xxx hyphen xxxx (CMOS 6.82)

3.25 RANGES

In text, indicate a range that includes the endpoints by using the words "from" and "to." Do not use a hyphen.

Example:

Don't say	Say
10 inches to 14 inches	from 10 to 14 inches

In tables, indicate a range by using a hyphen.

3.26 SLOPES

For 2006 SSPs, show slopes like this:

2:1 (horizontal:vertical)

For 1999 SSPs, show slopes like this:

1:2 (vertical:horizontal)

3.27 TOLERANCES

For tolerances, add a space on each side of \pm (CMOS 14.58).

Example:

4.2 \pm 0.1 inches

3.28 LISTS

Avoid using "the following" in the introduction to inclusive lists.

Example:

Don't say	Say
Miscellaneous metal consists of the following:	Miscellaneous metal consists of:

Capitalize the first word of each item in a list.

Use a period at the end of each item in a list if an item is a complete sentence. See Appendix 6.1, paragraph 3.

Section 1 of the Standard Specifications has the following clause: "All items in a list apply unless the items are specified as choices." If the list is not inclusive add "one of the following," "either of the following," "any of the following," or other phrase that specifies how the items apply.

Avoid beginning items in a list with articles; avoid ending the introduction of a list with an article. Although they may be needed to make a grammatically correct statement, "a," "an," and "the" are often not needed in lists. Listing the items with or without the articles provides the same information; but the lists are crisper without the articles.

Don't say	Say
Bring: 1. A pen 2. A pencil 3. A calculator or Bring a: 1. Pen 2. Pencil 3. Calculator	Bring: 1. Pen 2. Pencil 3. Calculator

Space and number lists as shown in the following example:

Specification writing requires:

1. Familiarity with:
 - 1.1. Material properties
 - 1.2. Construction procedures
2. Knowledge of contract law
3. Proficiency in English because using words incorrectly:
 - 3.1. Creates confusion
 - 3.2. Costs time and money
 - 3.3. Reflects poorly on the Department
4. Mastery of punctuation

3.29 TABLES

Introduce a table as you would a list.

Display tabular work as shown in the following table. If you are referring to a table from somewhere other than the introduction, refer to it by the table title.

Table Title

Column Heading	Column Heading	Column Heading	
		Column Subheading	Column Subheading
Row heading ^a			
			--

NOTE: A general note applies to the table as a whole.

^aUse alphabetic superscripts to reference notes to specific table elements.

Use outside borders.

Use gridlines between cells.

Make the table no wider than the paragraph width.

If the table is less than the paragraph width, center the table.

Center 2 hyphens in a cell with no data.

Add a line space before and after the table.

4 COMPUTER USE

Use the current SSP template. This template contains all the styles that you need to use for an SSP. Do not create additional styles. The current SSP template is available at:

<http://www.dot.ca.gov/hq/esc/oe/>

Set Microsoft Word to use straight quotes and apostrophes.

5 BIBLIOGRAPHY

ASTM. Form and Style for ASTM Standards. ASTM International, West Conshohocken, PA, 2004.

Construction Specifications Institute. The Project Resource Manual: CSI Manual of Practice, 5th ed. McGraw-Hill, 2005.

Federal Register, "Drafting Legal Documents," <http://www.archives.gov/federal-register/write/legal-docs/index.html>.

R.S. Means Company, Inc. Means Illustrated Construction Dictionary, 2nd ed. Kingston, MA: R.S. Means, 2003.

6 APPENDIX

6.1 SSP EXAMPLE

10-1. SLOTTED PLASTIC PIPE DRAIN

This work includes installing slotted plastic pipe drain.
Comply with Section 64, "Plastic Pipe," of the Standard Specifications.

MATERIALS

Slotted plastic pipe must:

1. Be made of HDPE
2. Have a minimum wall thickness of 0.23 inch
3. Have a smooth interior surface except at stiffening ridges. Stiffening ridges must:
 - 3.1. Be 10 inches on center
 - 3.2. Be 3/8 inch deep and 1-3/8 inch wide
 - 3.3. Provide stiffness to prevent pipe deflections greater than 1/16 inch when concrete backfill is placed against walls
4. Have tongue-and-groove interlocking ends and clips molded into the sides of the channel to accommodate vertical bar reinforcing for positioning and anchoring

Each slot must be 1-3/4 inch wide and have hollow throat stiffeners at 5-inch intervals to keep sides of the slot apart.

Each end cap must be:

1. Manufactured to the same material requirements as the slotted plastic pipe
2. From the same manufacturer as the slotted plastic pipe
3. Made to fit snugly and prevent concrete backfill from entering the pipe

If heel resistant grate is shown on the plans, the grate must comply with Americans with Disabilities Act.

Bar reinforcing must comply with either ASTM A 615/A 615M, Grade 60 or ASTM A 706/A 706M.

Ductile iron castings, nuts, bolts, and washers must comply with Section 75, "Miscellaneous Metal," of the Standard Specifications.

Grout must be nonshrink and comply with ASTM C 1107/C 1107M.

CONSTRUCTION

Before backfilling:

1. Secure pipe to prevent separation.
2. Cover slots with heavy-duty tape or other approved covering.
3. If slotted plastic pipe drain connects to an existing pipe drain, fill gaps around the existing pipe with nonshrink grout.

4. Place a lateral support bar on both sides of the grate slot. The support bar must run the full length of the grate slot.

MEASUREMENT AND PAYMENT

The contract price paid per linear foot for the various sizes of slotted plastic pipe drain includes furnishing all labor, materials, tools, equipment, and incidentals, and for doing all the work involved in installing slotted plastic pipe drain, complete in place, including heel resistant grate, structure excavation, connecting slotted plastic pipe drain to new or existing facilities, and concrete backfill, as shown on the plans, as specified in the Standard Specifications and these special provisions, and as directed by the Engineer.